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Examining rural, low-income families' housing trajectories over three years: A mixed methods analysis

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**Examining rural, low-income families' housing trajectories
over three years: A mixed methods analysis**

by

Andrea Lynn Bentzinger

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Human Development and Family Studies

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ABSTRACT

The present studies conceptualized longitudinal housing patterns of rural, low-income families as housing trajectories focusing specifically on tenure patterns: (1) continuous renter, (2) owner to renter, (3) renter to owner, and (4) continuous owner. A mixed-methods approach resulted in one qualitative manuscript and another quantitative manuscript to better understand and assess the housing tenure trajectories of families across three waves of data. Two overarching questions were explored: (a) What factors affect a family's housing tenure trajectory and (b) are health and housing tenure trajectories related? In Chapter 2 findings are reported from the qualitative analysis in which issues related to health and health resources were identified including the subsequent impact on mothers' abilities to make decisions about housing tenure. Chapter 3 reports on data analyses aimed to quantify and further examine health and health resource issues identified through qualitative analyses. Two health variables (continuous Medicaid coverage and food security) were significant in both a model with health variables alone and a model that added sociodemographic variables (income, and partner status); continuous renters were more likely to have continuous Medicaid coverage and to be food insecure. In a second model in which partner status and income were added to health variables, income was significantly associated with continuous homeownership even though the sample consisted of only low-income families. The results lead to important conclusions regarding the importance of home ownership to low-income families and the need for a more holistic view of family health and health resources in achieving and sustaining homeownership. The reciprocal nature of housing and health has implications for policymakers, housing professionals, and should guide future research. Better understanding and exploration of these relationships can lead to research-based

practices and research-based public policy to best meet the health and housing needs of rural, low-income families.

CHAPTER 1. GENERAL INTRODUCTION AND LITERATURE REVIEW

Introduction

Decisions families make about housing are not made in isolation; many factors play a role in determining choices about housing. Housing adjustment (Morris & Winter, 1975; Quercia & Rohe, 1993), housing careers (Clark, Deurloo, & Dieleman, 2003; Pickles & Davies, 1991), and housing paths (Clapham, 2005; Smith, Easterlow, Munro, & Turner, 2003) are terms often used interchangeably in the literature to explain factors associated with choices about housing including mobility and tenure decisions. Why people move has been the subject of many previous investigations. Early investigations in this field attempted to identify and understand a predictable pattern to describe families' movement from one form of housing tenure to another—patterns of renting and owning housing (Rossi, 1955; Rossi & Shlay, 1982). Because families do not always follow a predefined housing tenure path, recently the concept of a housing trajectory or pathway has been used to capture the various changes in housing situations, especially among families who may undergo rapid changes in household composition, employment, and income (Clapham, 2002; Murdie, Chambon, Hulchanski, & Teixeira, 1999).

Family stressors, such as changes in financial or household configuration, may make it difficult to enter into or sustain homeownership, particularly for low-income families. Changes occurring at the family level, such as the addition of a child or increases or decreases in income, may play a role in the decision to make a housing adjustment – to move or stay and to own or rent a home. Or as Clark, Deurloo and Dieleman (1994) suggested, changes may occur at a “macro-level”; among them for example, the price of new construction and mortgage rates may influence the likelihood that couples and families move

into homeownership. Rural low-income families especially may face a challenging landscape at the household and housing marketplace levels. Previous research, however, rarely has examined low-income, rural family housing tenure trajectories. Furthermore, for families that are low-income, there is an increased risk of slipping back into the rental market after homeownership has been attained, but there is little information as to why this occurs (Boehm & Schlottmann, 2004).

The present studies conceptualized longitudinal housing patterns of rural, low-income families as housing trajectories, focusing specifically on tenure patterns, using a mixed-methods approach. Two manuscripts were prepared one using a qualitative and the second using a quantitative approach to better understand and the housing tenure trajectories of families across three waves of data. Two overarching questions were explored: (a) What factors affect a family's housing tenure trajectory and (b) are health and housing tenure trajectories related? Four housing tenure patterns were categorized to investigate different family circumstances: (1) continuous renter, (2) owner to renter, (3) renter to owner, and (4) continuous owner. Comparisons of these groups were undertaken to illuminate and clarify the challenges low-income, rural families face when making housing decisions and to better depict them for policymakers, housing advocates, and social service professionals.

This research investigation also strove to better understand the impact of family health conditions and resources on family housing tenure decisions. Previous research has suggested that meeting shelter and health care needs represent competing demands for limited resources among low-income households (Lipman, Fields, & Saegert, 2012; Long, 2003; Reid, Vittinghoff, & Kushel, 2008; Smith et al., 2003). Medical expenses sometimes

prevent families from finding housing that is affordable and purchasing a home that is a suitable, healthy place to live.

The data used in the studies came from interviews with 209 rural, low-income mothers who participated in the NC1011 project (Rural Families Speak¹). This multi-state project tracked measures of well-being and functioning of rural, low-income families in the context of Welfare reform. A variety of geographic regions in the United States were included, and 80% of the participants resided in areas that had a rural–urban continuum code (RUCC) of 6, 7, or 8. An RUCC of 6 or 7 indicates nonmetropolitan counties with an urban population of 2,500 to 19,000; codes 8 and 9 are considered the most rural with no town in the county having a population of more than 2,500 (USDA, 2003). Three states did not have a county with a RUCC of 6, 7, or 8 in that state (California, New York, and Massachusetts) and participants were located in the most rural sites possible for that state (Bauer, 2004).

Interviews were conducted with mothers who had at least one child under the age of 18. Both quantitative and qualitative data were collected about demographic, employment, family, housing, and health of the mothers and their families in semi-structured interviews that lasted approximately 2 hours. Three waves of interviews were completed, each taking place approximately one year after the subsequent interview. Additionally, there were three panels of states that completed interviews each starting interviews in different years; Wave 1 data collection began in 1999, 2001, and 2004 for panels 1, 2, and 3 respectively and final interviews (Wave 3) were conducted in 2002 and 2003 for panel 1, 2003 for panel 2, and

¹ This research was supported in part by USDA/CSREES/NRICGP Grants—2001-35401-10215, 2002-35401-11591, 2004-35401-14938. Data were collected in conjunction with the cooperative multi-state research project NC-223/NC-1011 Rural Low-income families: Tracking Their Wellbeing and Functioning in the Context of Welfare Reform. Cooperating states are California, Colorado, Indiana, Iowa, Kentucky, Louisiana, Massachusetts, Maryland, Michigan, Minnesota, Nebraska, New Hampshire, New York, Ohio, Oregon, South Dakota, West Virginia, and Wyoming.

2006 for panel 3. Three waves of data allowed for examination of changes in family economic and health status, other changes in household configuration, and the extent to which these changes may be linked to housing tenure trajectories. Mothers interviewed in this project had to be eligible for, but not necessarily receiving, Food Stamps or Supplemental Nutritional Program for Women Infants and Children (WIC). Recruitment of mothers was done through these programs and/or referrals from mothers that had already participated in the study. Each state was allowed to recruit participants based on racial and ethnic diversity of the low-income, rural population in the state (e.g. for example, Iowa, Michigan, Oregon, and California over-sampled Latinos). For more information about his project see Bauer (2004).

Dissertation Organization

The dissertation follows the journal format and includes an introduction and literature review (Chapter 1), two research manuscripts prepared for publication (Chapter 2 and 3), and an overall summary of the work including a general discussion, study limitations, and future directions (Chapter 4). The remainder of chapter 1 contains a review of literature focused on previous research that guided this study including the role that health (mental and physical health conditions and health resources) and sociodemographic factors (age, partner status, number of children, race/ethnicity, income, and education) have been shown to play in understanding and predicting family housing tenure decisions. The literature review also describes the opportunities and constraints affecting owning and renting a home in rural settings. The references cited within each chapter are listed at the end of that chapter. Figures, tables, and appendices related to each manuscript are included after each manuscript's references. The authors listed on both manuscripts, Andrea L. Bentzinger and

Christine C. Cook, are a graduate student and an Associate Professor, respectively, in the department of Human Development and Family Studies at Iowa State University. Andrea L. Bentzinger is the primary researcher and author completing requirements to obtain her PhD and Christine C. Cook is her major professor and main author for correspondence.

The first manuscript (Chapter 2), entitled “Three Years in the Lives of Rural, Low-Income Families: Health and Housing Tenure Trajectories,” was based on qualitative data analysis of the descriptive short answers and narratives provided by 20 mothers that are low-income and live in rural communities in the United States. Previous investigations of housing tenure typically have been quantitative studies and often have been unable to explain families’ motives and experiences over time. Two research goals were identified: (a) to gain a better understanding of why/how rural, low-income families make decisions about housing tenure and (b) to observe the relationship between health circumstances and housing tenure trajectories for a rural, low-income population. Using Morris and Winter’s (1975) theory of housing adjustment (described in more detail next in this chapter), the study focused on normative housing tenure trajectories (e.g. those who continuously owned homes or changed from rented to owned homes) compared with non-normative housing trajectories (those continuous renters or those who changed from owned to rented homes). Six interviews were analyzed from each stable housing tenure trajectory (continuous renter, continuous owner) and four interviews were analyzed from the housing tenure trajectory groups that experienced a change (from owning to renting or from renting to owning). An inductive analysis included an initial reading of the transcripts to identify codes, categories and initial emergent themes and allowed the researcher to become familiar with the data. Additional and more comprehensive readings of the interviews then permitted the identification of patterns

between and among responses within each of the four housing trajectories and then the refinement of emergent themes.

In the second manuscript (Chapter 3), entitled “Exploring Health and Housing Tenure Trajectories of Rural, Low-Income Families,” the effects of health and sociodemographic variables on families’ tenure decisions were investigated. The research examined three housing tenure trajectories: (a) continuous renter, (b) renter to owner, and (c) continuous owner to better understand the constellation of factors that affect families’ housing decisions. Insufficient data were available to examine families who moved from owned to rented homes. Three waves of data permitted the continued exploration of housing tenure status among 205 of the 209 families including preliminary consideration of changes in family health and sociodemographic characteristics such as injuries and illness, health problems, household configuration, and employment and income. Findings from previous literature and the analysis of qualitative data (Chapter 2) revealed important relationships between and among the health conditions and circumstances of sampled families that warranted further attention. Two questions emanated from this previous work and are addressed (in Chapter 3).

Question 1: Are health variables (e.g. illness or injury in the family, mother’s self-reported anxiety/depression, Medicaid assistance at Wave 1 and continuous Medicaid assistance, food security, and creating support networks) associated with housing tenure trajectory?

Question 2: How does the addition of sociodemographic variables (e.g. partner status, and monthly household income) to health variables affect the overall explanation of housing tenure trajectory?

Descriptive statistics, mean differences (ANOVA and chi-square), bi-variate correlations, and multinomial logistic regressions were employed to examine answers to these questions.

Chapter 4 of the dissertation provides an overall summary and general discussion of the studies including limitations and future directions. Taking the two studies together, recommendations for future research, professional practice, and public policy are identified to improve the housing opportunities of rural families that are low-income.

Theoretical Framework: How Do Families Make Housing Decisions?

The theory of housing adjustment developed by Morris and Winter (1975, 1978, 1996) describes how housing adjustment decisions are made at the household level. This theory underscores that all housing decisions are based on familial and cultural housing norms and that families are constantly evaluating their housing against these familial and cultural norms; if the family's housing begins to deviate too far from the norm, then they will strive to change it (e.g. families that live in rental housing will not be satisfied with their housing situation and will aim to move into homeownership). Morris and Winter described housing norms for tenure, size, quality, neighborhood, structure, and expenditure. In the United States, the most desirable housing is owned and of good quality, a single family detached dwelling that includes space for cooking, eating, recreation, entertaining and sleeping in a location that is safe, has good schools, well maintained streets, and has a "population that is homogeneous regarding social class, and race/ethnicity" (Morris & Winter, 1975, p. 83). For the purposes of this study the focus will be specifically on how families make decisions about their housing tenure. Despite the 2008 economic downturn and housing affordability issues, in the United States the cultural tenure norm continues to be to own a home. Nationally, 65% of occupied units in the United States are owner occupied

(U.S. Census Bureau, 2010) and the percentages have been consistently higher in rural areas (Housing Assistance Council [HAC], 2005).

Constraints, however, may make it difficult for families to make this adjustment and move from renting to owning a home. Predispositions, household organization, resources, market, and discrimination are examples of such constraints. Predispositions is a term coined by Morris and Winter (1978) to describe constraints due to the psychological dimension of the household members (e.g. the personality of the individuals in the family). For example, locus of control, self-efficacy, motivation, or apathy may have a bearing on how households assess their housing deficits and, in turn, affect their satisfaction with their housing situation. Household organization, such as roles and how effectively they are performed, may also constrain households when it comes to making decisions about housing. The organization of single-parent families or extended, multi-generational families may affect housing adjustment behaviors. Resource constraints refer to a family's supply of or limits to money, skills, and/or education. Examples of market constraints are the supply of affordable housing and the availability of financing housing in the housing market. Discrimination is the last constraint that Morris and Winter (1978) described and is an issue that has received much attention in the last two decades, especially when it comes to homeownership rates for minority populations (Cortes, Herbert, Wilson, & Clay, 2007; Haurin, Herbert, & Rosenthal, 2007; James & Atilas, 2008). Morris and Winter did not specifically address health conditions and circumstances or the availability of health resources as constraints, though these characteristics may be viewed as family or market resources.

In their past work Morris and Winter consistently held fast to the idea that there are two distinct housing norms; one that prescribes tenure – homeownership for families, and

another that prescribes structure type – that they live in a single-family detached house. However, given a family’s constraints, a hierarchy of norms (e.g. exchanging one for the other) may be warranted where some norms are achieved but others are not. For example, the home may be an affordable single-family detached home, but it is rented not owned. There seems to be no evidence that previous researchers have hypothesized a hierarchy of housing norms. Previous studies have employed Morris and Winter’s theory to explain why families make housing adjustments, including the selection of homeownership, but few have tested the theory with longitudinal data or explained, quantitatively and qualitatively, the role of the health needs of family members and the health resources available to them in a family’s housing adjustment decisions. In this investigation, Morris and Winter’s theory of housing adjustment provides the conceptual framework for examining the complexities and processes that affect family housing tenure decisions and how constraints may impinge on these decisions.

Literature Review

“Factors that prompt a housing adjustment decision include, household’s life cycle stage, the socioeconomic characteristics of the household, the actual and preferred residential conditions, and the cost associated with making that housing adjustment” (Quercia & Rohe, 1993, p. 20). The following literature review examined previous research to identify the relationship between housing tenure and family physical and mental health. A portion of the literature review also examined the effects of age, partner status, number of children, race/ethnicity, income, and education level on housing tenure. One may assume, and previous studies have shown, that many of these family characteristics are correlated with

life-cycle stages. Finally, the importance of rural location and its effect on housing adjustment behavior is described.

This review demonstrates four important points: (a) there is a well documented relationship between housing and health, though only recently have health and health resources been viewed as affecting housing decisions, (b) sometimes housing decisions about tenure do not follow a predefined path based on life-cycle stages, (c) there is a lack of research documenting why some households move back into the rental market after attaining homeownership, and (d) there is a lack of qualitative literature to provide rich, detailed descriptions from families themselves on how they make decisions about housing.

Health and Housing

The relationship between health and housing has been documented in previous literature, though the focus has been on the effect of poor quality housing and neighborhoods and unaffordable housing on physical and mental health; housing that is substandard is unhealthy, unsustainable, and unaffordable for its residents. Low-income households have been found in past research to be the most affected by poor quality housing and neighborhoods (Evans, Saltzman, & Cooperman, 2001; Harkness & Newman, 2005; Pollack, Griffin, & Lynch, 2010). However, cause and effect are difficult to determine: e.g. is it that housing leads to poor health or that poor health influences families' housing decisions? Due to the interest of these current studies on health conditions and circumstances influence on housing tenure decisions this literature review will focus on previous research that has been conducted in exploring health as a determinant of tenure trajectories.

Smith et al. (2003) completed a study with 84 households, in which both men ($n = 33$) and women ($n = 51$) who had health problems participated in in-depth interviews. The most

common health problems of these participants were arthritis, cardiovascular disease, chronic fatigue, and multiple sclerosis. Results of the study led to the conclusion that both physical and mental health conditions hindered some participants from moving into homeownership and forced others out of homeownership. Securing financing and finding a suitable property were the two most commonly cited reasons for inability to enter into homeownership.

Sustaining homeownership or a possible move back to the rental market revolved around housing expenditures, increased health care costs and failure to be able to maintain a healthy home. When it comes to maintaining a healthy home, “a change for the worse in health can very quickly affect people’s use of, and quality of life within, their home” (p. 517) resulting in a move from ownership back to the rental market.

Focusing on the link between health and housing, Libman et al. (2012) sought to illustrate how poor health can increase the risk of foreclosure, and how the threat of foreclosure can affect mental health negatively. The researchers conducted focus groups with homeowners and nonprofit professionals in five cities in five different states. The results of the study found, “a confluence of vulnerabilities” such as employment based on commission and health issues of family members that impacted the ability to keep up on mortgage payments. The findings illustrated how, “mortgage delinquency and the threat of foreclosure can be reciprocally related to health” (p.17).

Examining owners and renters, Bentzinger and Cook (2012) found both the number of individuals in a family with medical insurance and food security scores were significantly different between owners and renters. Food security, but not medical insurance, was significant in a binomial logistic regression predicting tenure status; those participants who were food secure were more likely to be homeowners. Food security sometimes is used as a

proxy for family health (Berry, Katras, Sano, Lee, & Bauer, 2008). Bentzinger and Cook's study sought to identify the predictors of homeownership for a low-income, rural population. Their findings suggest that health related issues such as the prevalence of health insurance and food security are an important step in attaining homeownership for families.

Reid et al. (2008) agree that there are competing demands between housing and health care. In examining four nationally representative surveys, they found that, "having worse economic and housing instability was associated with worse access to health care and higher rates of hospitalization" (p. 1221). While Reid et al. demonstrated that housing costs and other basic needs seem to impact choices about health care, it is equally likely that health care costs, especially for those living with a disability or chronic illness, infringe on the choices made about housing tenure.

Psychosocial characteristics, such as self-efficacy, locus of control, self-esteem, and motivation, were used by Smoot (2004) as mental health indicators in her investigation of homeownership among rural, low-income, single mothers. The findings indicate that low motivation and residential satisfaction were the most powerful variables in explaining a move into homeownership, perhaps suggesting that mental health contributes to housing tenure trajectories.

Conventional Wisdom: Predicting Homeownership

Age. Past research has shown that age and tenure status are related but results have been mixed. Younger households are more likely to rent due to mobility factors, lower incomes, and higher costs associated with owning a home (Clark et al., 2003; Haurin et al., 2007). The American Housing Survey (U.S. Census Bureau, 2009) lent support to this statement: 79% of occupied units for those under the age of 25 were renter occupied;

however, 55% of occupied units for those aged 30-34 were owner occupied; and 75% of those occupied units of those 45 years and over were owner occupied. Bentzinger and Cook (2012) found in a study of rural, low-income families that there was a significant mean difference between mother's age for owners and renters: owners were more likely to be older than their renter counterparts. However, a binomial logistic regression analysis did not show that mother's age was a significant determinant of tenure type. An increase in age and the increasing likelihood of being a homeowner may apply only to a family whose head of household is below the age of 50 (Painter & Lee, 2009). For those over age 50, there appears to be a transition from owner occupancy to renter, perhaps because older families move to retirement communities or supportive living environments or due to changes in marital status due to the loss of a spouse, changes in health status, or in the desire to reduce the physical responsibility for taking care of a home. Older adults also often move to be closer to children or for other reasons (Painter & Lee, 2009). Despite these population trends, Painter and Lee (2009), who focused on adults age 50, determined that age was not a significant factor in predicting a move from owner to renter. The authors concluded that apparently age alone was not likely the only determining, or most important determinant of housing tenure transitions.

Partner status. Past literature has identified the presence of a partner as correlated with higher homeownership rates (Clark et al., 1994; Cortes et al., 2007). Belsky and Duda (2002) found, using the 1997 American Housing Survey, that in all income categories married couples were more likely to own a home than were their single counterparts. When comparing recent buyers to those who were still renting, owners earning between 50 and 80% of the area's median income were one third more likely to be married with no children

and 65% were more likely to be married with children than their renter counterparts. The American Housing Survey (U.S. Census Bureau, 2009) reported that homeownership is still more prevalent for those who are married (62%) than for those who live in one-person households (22%). Bentzinger and Cook (2012) found rural, low-income owners were more likely to have a partner, either through marriage or cohabitation, when compared to renters (82.2% compared to 53.4%). A binomial logistic regression analysis also identified partner status as a predictor of owning a home; those with partners were three times more likely to be homeowners than were their single counterparts.

Just as marriage may signal a transition to homeownership, the dissolution of a marriage or partnership appears to be a risk factor that sends families back into the rental market (Dieleman, Clark, & Deurloo, 1995; Haurin & Rosenthal, 2005). Painter and Lee (2009) found that for a population over 50 divorce or loss of spouse led to a transition from homeownership. Particularly divorce had an immediate effect on tenure transition among the older adults studies.

Number of children. Families that experience the birth of a first child or additional children may move to acquire more space (Pickles & Davies, 1991). Homeownership also is generally higher for families with children and higher for two-parent as opposed to one-parent families; one explanation may be that larger families may not be able to find rental accommodations that meet their space needs (Carasso, Bell, Olsen, & Steuerle, 2005; Hughes, 2004). In addition, Rossi and Weber (1996) found that owners were significantly more likely to have larger families than were renters.

Although household size and homeownership often are shown to be correlated, the relationship does not always hold up when families are poor or headed by a single-parent

woman. Bentzinger and Cook (2012) found in their study of rural, low-income mothers that there was a significant difference between owners and renters regarding the number of children they had living in the household; however, the number of children was not a significant predictor in determining housing tenure for that population. Furthermore, Vanderford, Mimura, Sweaney, and Carswell (2007) posited too that “the presence of children can have a negative effect on homeownership, especially for households headed by single women, due to the costs of raising children” (p. 105).

Race/ethnicity. Homeownership among minority households has received a great deal of attention in the United States. Throughout the 1980s, as homeownership rates continued to edge upwards among all households, closer inspection showed that African Americans and Latinos were not experiencing increases in homeownership equivalent to their White non-Hispanic counterparts (Boehm & Schlottmann, 2004; Cortes et al., 2007; Haurin et al., 2007; James & Atilas, 2008). In the early 1990s, the Department of Housing and Urban Development undertook an initiative to increase not only low-income homeownership rates, but minority homeownership rates as well (Cortes et al., 2007; Haurin et al., 2007; James & Atilas, 2008). These initiatives, coupled with more relaxed underwriting standards, were successful, especially in rural communities, in increasing homeownership among underrepresented minority populations. Nevertheless, despite these initiatives, minority homeownership still lagged behind by 5 to 10% (Haurin et al., 2007). Furthermore, Boehm and Schlottman (2008) found in their study that minority status had a negative effect on homeownership regardless of income; the negative impact for higher income households was smaller but present nonetheless.

Consistent with literature that has suggested there is a gap between Latino and White non-Hispanic homeownership rates, Bentzinger and Cook (2012) found being Latino had a negative relationship with homeownership. James and Atilas (2008) conducted a study looking at four groups of Hispanics: renting without plans to buy; renting with plans to buy, but not actively saving; renting while saving for a home; and owning a home. Compared to their White non-Hispanic and African American counterparts, Hispanic renters were more likely to be saving to buy a home. However, they were less likely to actually enter into homeownership, which, according to the authors might be due to barriers that are not economic or demographic but cultural instead (e.g. understanding the credit processes or specific barriers related to undocumented workers).

Despite policy efforts there continue to be gaps in homeownership rates between White non-Hispanic and minority households (Haurin et al., 2007). This phenomenon has been attributed to two factors: (a) differences between White non-Hispanics and minorities in demographic and economic factors and (b) unobserved factors such as discrimination and lack of knowledge of the home buying and mortgage finance processes. Boehm and Schlottman (2004) conducted a longitudinal analysis examining determinants of housing tenure choice. They found that minority families were less likely to move into homeownership when compared to their White non-Hispanic counterparts, and once ownership was attained, minority households had a higher probability of moving back to the rental market.

Income. Not surprisingly, those families with higher incomes are more likely to be homeowners than renters (Boehm & Schlottmann, 2004). Jones (1995) conducted a study looking solely at the effects of liquid assets on acquiring homeownership. His findings

showed that, controlling for house prices, the magnitude of household savings increases the likelihood that renters will become homeowners. Bentzinger and Cook (2012) found that, even among low-income owners and renters, owners had significantly higher monthly incomes than did renters and, in a regression analysis, higher income increased the likelihood that the household owned the home.

Changes in income also play a part in determining housing tenure (Boehm & Schlottmann, 2004; Clark et al., 2003). Haurin and Rosenthal (2005) conducted an analysis of low-income first time homeowners and discovered that “focusing only on earnings growth, first-time low-income homeowners’ earnings grew at a 13 percent rate, at least twice the growth rate of low-income renters or any moderate-income or high-income group” (p. v). On the other hand, falling incomes and accelerating house values were likely to terminate homeownership for low-income families. “The average decrease in earnings in the year of a termination [of homeownership] was \$13,629, or about 37 percent of average low-income earnings” (Haurin & Rosenthal, 2005, p. 12). Painter and Lee (2009) found that mean values of income measures were higher for those who never had experienced a housing tenure transition when compared to those who had left homeownership. Households that held more equity in their homes also were less likely to leave homeownership. Although numerous studies have identified the relationship between income and homeownership, less is known about rural, low-income families and the role that income and changes in income may play in their housing tenure adjustments.

Education. Given that higher income is usually associated with higher levels of education, we expect that families in which adults have high levels of education are more likely to be homeowners than families where adults have less education (Boehm &

Schlottmann, 2004; Bentzinger & Cook, 2012). Painter, Gabriel, and Myers (2001) found that, independent of other variables, education was significantly related to housing tenure for a Hispanic population: Participants without a high school diploma were 5% less likely to be a homeowner, and those participants who were college educated were 3% more likely to be homeowners. However, Gyourko and Linneman (1996), using decennial census data from 1960, 1970, 1980 and 1990, found that over time the differences in ownership rates between higher educated people and lower educated people decreased.

Opportunities to Own and Rent in Rural Settings

More than one in five homeowners in the United States lives outside a metropolitan area, as do 16% of renters (U.S. Census Bureau, 2009). Although poverty in nonmetropolitan areas (14.6 %) is higher than in metropolitan areas (11.8%), there are other important systemic issues facing rural families that constrain housing adjustment decisions including availability and affordability of housing; quality of housing; access to services such as child care, healthcare, transportation; and access to assistance (Cook, Crull, Fletcher, Hinnant-Bernard, & Peterson, 2002; Fisher & Weber, 2002; Weber, McCray, & Ha, 1993). Fewer and lower-wage jobs or longer commutes to a job in a nearby metro area, access to a vehicle and lack of public transportation affect rural, low-income families.

Small rural communities have unique housing problems based on their changing demographic characteristics and the characteristics of their housing stock (Crull & Cook, 2000; HAC, 2007; Ziebarth, Prochaska-Cue, & Shrewsbury 1997). According to local housing decision makers in small rural communities, housing availability is limited and the quality of the available local housing stock often is inadequate (HAC, 2007; Ziebarth et al., 1997). Furthermore, small towns and communities often have difficulty responding to the

needs of new populations whether they are young White families or recently arriving immigrant populations (HAC, 2002).

Housing in rural communities is often of lower quality and, although it is usually lower in price, housing costs may surpass the recommended 30% of income; the rule of thumb for housing expenditures as a percent of income. Cook et al. (2002) noted that participants in their qualitative study described many physical inadequacies of their rural housing units. It appeared that living in substandard housing sometimes was used as a strategy for living affordably. Participants typically lived in houses that were built before 1940, or they lived in mobile homes or trailers, which were of dubious quality.

Conclusion

Although there is a documented relationship between health and housing, many studies have focused on how housing structures, tenure, and quality impact the health of families. Only a few investigations have considered housing tenure and family health circumstances with attention to both physical and mental health over time of mothers, partners, and children and attention to health costs, insurance, and affordability. Therefore, a more holistic view of the relationship between housing, family composition, employment, and health is necessary.

In general, previous research has suggested that there is a similar pattern among individuals and families of successive moves from smaller rented units to larger single-family detached houses that are owned. These successive moves usually follow a progression of family formation from young single adults to marriage to children, following the stages of a traditional life cycle. This pattern has been called into question, because individual and families' lives often do not following uniform life cycle progressions.

Furthermore, it is likely that housing tenure trajectories have been altered in light of recent calamities in the housing market and the slow economic recovery (Clapman, 2005; Murdie et al., 1999; Natalier & Johnson, 2012). It seems likely that these recent events will increase the number of families who return to renting their homes. Previous literature has documented that age, dissolution of a marriage, and even health are factors associated with a move back to the rental market. However, this research is limited and has not focused on a population that is rural and low-income.

One final conclusion from the review of literature is that much of the previous research has been cross-sectional and has not included both quantitative and qualitative data to help explore housing tenure decisions—an important undertaking of the current work. The current review has identified gaps in the literature: little is known about the residential mobility and housing adjustment patterns of rural, low-income families and the relationship of health with to these patterns. The current research aims to improve our understanding of the experiences and factors impacting the housing tenure trajectories of rural, low income families. Using both qualitative and quantitative methodologies we hope to contribute to a body of literature and information that will serve policy makers and housing advocates in working work with families to achieve their housing goals.

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CHAPTER 2: THREE YEARS IN THE LIVES OF RURAL, LOW-INCOME FAMILIES: HEALTH AND HOUSING TENURE TRAJECTORIES

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Abstract

The purpose of this qualitative research study was to examine how rural mothers who are low-income make decisions about housing. Analysis was based on longitudinal data collected from 20 mothers from 8 states. Mothers were selected from four categories of housing tenure trajectories: continuous renter, owner to renter, renter to owner and continuous owner. This study concludes that mothers who entered into homeownership over the course of the study did so through additional training and education, and increased incomes; and mothers who experienced a move back into the rental market or remained a renter over the three wave study experienced many challenges within their personal and family lives including challenges with physical and mental health and access to health resources. Mothers in all of the housing tenure trajectory groups struggled to meet competing family needs for food, shelter, and health-related expenses. This research contributes to our understanding of the complex and multifarious issues that impinge on housing tenure decisions for rural, low income families. This research can be used by policy makers and housing advocates to work with families to provide them with the tools needed to achieve their housing goals.

Introduction

Studies in housing often have focused on the spatial distribution of housing and the processes surrounding residential mobility, tenure choice, and the housing search (Clapham, 2002). These investigations usually have attempted to “generate universal propositions” because it was assumed that “housing preferences vary over the life cycle and according to other demographic and economic variables” (Clapham, 2002, p. 58). The theoretical and methodological approaches in these studies are positivist in nature; that is, they assume a set of truths can be identified that portray uniform housing choice patterns. Qualitative inquiry, traditions such as ethnography, phenomenology, or critical theory, may provide alternative ways to examine housing, even though this form of inquiry has not always been integrated into mainstream housing research (Clapham, 2002). In 2002, Jacobs and Manzi described the usefulness of social constructionist epistemologies as a means to better incorporate the view that individuals are active in the process of the interpretation of their own experiences, necessary to “avoid falling into the trap of treating accounts as concrete realities or material truths” (p. 36). Housing trajectories may be best understood as the lived experiences of families. When families themselves depict the sequence and relationships between events in their lives, it improves the knowledge of “people’s experiences across the various spheres of life and connecting people’s experiences over time” (Pollack, 2007, p. 168).

The purpose of this study was to gain a better understanding of housing tenure trajectories among rural-low-income families over three waves of data collection. Housing tenure refers to the arrangement under which a household occupies all or part of a housing unit, typically owning or renting (Merrill, Crull, Tremblay, Tyler & Carswell, 2006). Specifically of interest in this research were the sequence of events that may have contributed

to four housing tenure trajectories (e.g. families that were continuous renters or owners or who changed from renters to owners or owner to renters over the course of the study) and the role of health on these trajectories. A basic interpretive, qualitative methodology was employed to focus on how rural, low-income mothers describe their housing situations and decisions and the health-related issues they face. The knowledge generated from this study offers insights into the events and circumstances surrounding housing tenure decisions and attempts a more nuanced interpretation of the role played by the mental and physical health of family members' and health resources accessible to them than in previous research.

Theoretical Framework

Morris and Winter's (1975, 1978) theory of family housing adjustment provides the conceptual underpinning for this study. Morris and Winter posited that families make decisions about housing based on six housing norms: size, structure, quality, expenditure, location, and tenure. The focus of this study is the housing tenure norm. According to Morris and Winter, families that are renters strive to become homeowners because they view it as culturally appropriate; it is normative. A majority of families in the United States are homeowners and the percentages have been consistently higher in rural areas (Housing Assistance Council [HAC], 2005). Constraints, however, may make it difficult for families to move from renting to owning a housing unit; e.g. predispositions, household organization and resources, market conditions and discrimination affect a household's ability to adjust housing to align with cultural norms.

An important focus of this study was to examine how mothers that are low-income and live in rural areas describe their families' health and how health conditions and health services and institutions impinge or buffer housing choices. While Morris and Winter do not

specifically address health as a constraint in their theory. In this study, medical expenses and challenges with physical and mental health are expected to play an important role in shaping the housing tenure decisions of rural, low-income families

Literature Review

Rural families face a plethora of issues that thwart their ability to secure safe, decent and affordable housing. Families living in rural homes struggle to provide housing free of physical deficiencies (Cook, Crull, Fletcher, Hinnant-Bernard, & Peterson, 2002; Fisher & Weber, 2002; Rural Well-Being, 2000), and that is also affordable for owners and renters (Bravve, DeCrappeo, Pelletiere, & Crowley, 2011; HAC, 2005). Increasingly evidence suggests that poor quality housing that is unaffordable can jeopardize health and quality of life (Smith, Easterlow, Munro, & Turner, 2003) yet the amount of assistance available to families that are low-income and are living in rural areas is limited (Cook et al., 2002). Other unique challenges face families in rural settings, especially those with limited resources. The ways in which these challenges impinge on housing decisions and health resources of families is not well represented in previous literature.

When families experience a housing tenure transition (e.g. renter to owner or owner to renter), it has important implications for the entire household, parents and children alike. Although there is a substantial body of quantitative research literature that has examined factors associated with residential mobility, fewer studies strive to understand family housing tenure decisions and the impact of family health conditions and resources on those decisions. There is evidence, however, that meeting shelter and health care needs are competing demand among low-income households. Smith et al. (2003) found that medical expenses prevented families from purchasing a home and that some participants could not find a

suitable place to live that met their health needs. In their qualitative study, Smith et al. also reported that sustaining homeownership became more difficult for those with health care needs either because of the costs of homeownership or the difficulties associated with maintaining a healthy home. The loss of employment due to health concerns, for example, led to a decrease in income. Participants simultaneously experienced an increase in health care costs for prescriptions and doctor/emergency room visits forcing a choice between paying health care costs and housing costs. Reid, Vittinghoff, and Kushel (2008) examined four nationally representative surveys and concluded “having worse economic and housing instability was associated with worse access to health care and higher rates of hospitalization” (p. 1221). Long (2003) reported that among those aged 19 to 64 who did not have health care coverage over the last year, nearly 60% faced food and/or housing hardships. She demonstrated that health care insurance coverage, housing, and food costs were associated, “Overall, it appears that food and housing hardship is associated; an uninsurance rate was 20 percent higher than in the absence of food and housing hardship” (p. 6).

Libman, Fields, and Saegert (2012) examined the relationship between health and housing, specifically how poor health may increase the likelihood of foreclosure and then foreclosure may impact mental health. Unusual in previous research, Libman et al. employed a qualitative methodology, focus groups, to better understand the reciprocal relationships between health concerns, financial stress and housing among urban homeowners. Analysis revealed that pregnancies and births, illness and the injury or death of a child, and other health problems led to increased medical expenses and sometimes a loss of income when employment could not be maintained. Low-income homeowners were forced to draw on their largest asset, the equity in their home, to meet health expenses. Paying the bills for

these low-income families pitted housing costs against health care costs and increased stress and depression of family members.

Methods

This research investigation had two purposes: (a) to gain a better understanding of why/how rural, low-income families make decisions about housing tenure; with a focus on normative housing tenure trajectories (e.g. those who continuously owned homes or changed from rented to owned homes compared with non-normative housing trajectories such as continuous renters or those who changed from owned to rented homes); and (b) to observe the relationship between health circumstances and housing tenure trajectories for a rural, low-income population. Health circumstances included attention to both the physical and mental health status of family members at Wave 1 and changes in physical and mental health among mothers, partners, and children over the course of the study and attention to health care costs and medical insurance. To accomplish this, an interpretive qualitative approach was used to study stability as well as changes in tenure status and health circumstances of 20 rural, low-income mothers over the course of a three wave project.

Data came from participant interviews conducted by members of the Rural Families Speak Project (NC1011). The NC1011 project is a multistate (17), longitudinal (3 waves) investigation that included the collection of both quantitative and qualitative data. For the purposes of this study only the qualitative responses will be analyzed. Wave 1 data collection, which began between 1999 and 2004², and Wave 2 and Wave 3 data collection

² The NC1011 Project included three Panels of participating states: Panel 1 states included CA, IN, KY, LA, MD, MA, MI, MN, NE, NH, NY, OH (county 1), OR, and WY (Wave 1 only) with Wave 1 data collection starting in 1999; Panel 2 states included OH (county 2) and WV with Wave 1 interviews starting in 2001; and Panel 3 states included IA and SD with Wave 1 data collection starting in 2004.

were completed in approximately one year intervals with all interviews concluding in 2006. In Wave 1 data collection (all three Panels included) face-to-face interviews were conducted with 522 participants who had at least one child under the age of 18. Participants were asked about their experiences on a variety of topics including, health, employment, family, and housing in the context of welfare reform. The semi-structured interviews comprised a core set of questions asked of each participant. Semi-structured interviews allowed participants the opportunity to expand on their answers to include more rich and detailed information. For more information on Rural Families Speak see Bauer (2004).

Sample

For the current study the screening rules for the sample required mothers to have interviews for all three points of data collection and to have a recorded housing tenure (e.g. rent or own) for each wave. This resulted in 209 mothers across 14 states. Once these 209 mothers were identified they were classified by housing tenure trajectory; four different housing trajectories were identified for the purpose of this study: (a) continuous renter (n=111), (b) own to rent (n=4), (c) rent to own (32), and (d) continuous owner (62). Twenty interviews were selected for in-depth analysis: six interviews were analyzed from the stable housing tenure trajectories (continuous renter and continuous owner) and four interviews were analyzed from the changing trajectories (own to rent and rent to own). Cases were selected to represent states from the own to rent category (CA, LA, NE, and NY). Further determination of which mothers' interviews would be analyzed was determined based on the richness of the data after a scan of all interviews from those states; mothers who expanded on their answers with more detail were more likely to be selected for this study. Patton (1990) suggests that "information-rich cases" help us to learn a great deal about issues that are

central to the importance of the research. It was expected that 20 cases would result in informational saturation, when new data fail to generate new themes and new information (Saldana, 2009). If saturation was not achieved, additional cases would have been selected for analysis. Table 3.1 displays housing tenure, sociodemographic (partner status, race/ethnicity, number of children living in the household, employment status), and health information (depression scale scores, and chronic health scores) for these 20 mothers over three waves.

Data Analysis

All interviews were tape recorded, transcribed; preliminary coding with MAXqda was completed by one member of the NC1011 project team. MAXqda is a professional qualitative software program that facilitates coding and is especially appropriate for large data sets and use by multiple researchers in different locations. Pseudonyms for family members and city names were inserted to protect participants' confidentiality. For this study, each interview was read by the author and reread in its totality without regard for previous broad-based coding. An initial reading of all the interview transcripts allowed the researcher to become familiar with the interviews. During this reading, significant statements, sentences, or quotes were highlighted (placed in a Word file with memos written about them) for coding and categorization of the data in preparation for identifying predominant themes (Creswell, 2007). Additional in-depth examinations of the transcripts were completed, which resulted in more specific and refined patterns and themes. Peer debriefing, journaling, and detailed descriptions of the data helped to establish trustworthiness of the data analysis (Saldana, 2009). Any challenges or issues presented by the analysis were discussed by the

coauthors and the program of study committee. Appendix A displays summary case notes, and Appendix B illustrates coding and categories that suggested emergent themes.

Results

Several subthemes, organized by the 4 housing tenure trajectories identified were identified and are reported next. Two over-arching themes emerged from analysis of the data (striving for homeownership and the fragility of homeownership). In addition, families' health was identified as ubiquitous in shaping housing tenure decisions; e.g. physical and mental health conditions of family members; medical expenses; community health services and resources. Table 3.2 displays additional information about these mothers (e.g. housing expenses, residential mobility, housing assistance, and desire to purchase a home) arranged by housing tenure trajectory.

Continuous Renters

By definition, families who are continuous renters are non-normative, not having achieved a fundamental housing norm – homeownership (Morris & Winter, 1978). In quantitative analyses non-normative housing (e.g. renting a unit that has too few bedrooms) has been shown to predict housing dissatisfaction and requisite housing adjustment; e.g. residential mobility, remodeling, or family adjusts, or chronic dissatisfaction. Of the six continuous renters, only one mother expressed no plans to enter into homeownership and she was receiving a rental subsidy which kept housing costs at or less than 30% of her monthly income. Keeping household housing cost burden low and proximity to employment or family were important in choosing housing among continuous renters. Affordable rental housing in a great location was considered an optimum solution. “It [my residence] is very

affordable and it is very energy efficient and it is close to my grandmother. My landlord is very nice.”

Health of Continuous Renters and their Families: Sue is a mother who wants to purchase the single family detached house that she rents from her landlord for \$45,000 but during all three waves of data collection she reports being behind on rent and having trouble keeping up with paying bills, especially when it comes to medication for her family; Sue’s partner has a heart condition which makes it impossible for him to work. Sue’s daughter has chronic bladder issues and needs medication for that, which she cannot afford because she and her daughter do not have health insurance in Wave 1 and Wave 2. In Wave 3, Sue’s family now has full coverage through her partner’s medical VA (Veteran’s Administration) coverage. She reports still having trouble paying for medications over the last year because they are reimbursed for the family’s expenses; the VA does not pay for the medication directly. Even so, by Wave 3 we learn she had quit working in order to stay home with her partner due to his physical health issues.

Like Sue, Sadira has Medicaid coverage for her children, yet she struggles to pay for medicines and other medical expenses ‘up front.’ She notes that along with the local charity hospital and grants through the hospital that allowed them to receive medical services, the Medicaid reimbursement for medical expenses has helped her to pay other bills she owes. Estralita spoke about the difficulty in being able to pay for medical expenses in Wave 2, “well uh credits yes I’ve had problems to pay...and also the children’s doctor...and Jennifer is sick and doesn’t have medicine anymore...I was paying ten or twenty dollars a month but one day I couldn’t pay anymore.” Many times going to the doctor is not an option. Even when they have current health care coverage, mothers say they do not go to the doctor unless

it is an emergency even when they have insurance. Two mothers, Joelle and Sadira, described considering taking their medical issues into their own hands instead of seeing a doctor. “Here it is. I’m aching, and walking like I am ninety years old every morning. I need to do something” but visiting the doctor was not one of the options.

Owners to Renters

In the United States it is uncommon for families with young children to change from owned to rental housing. The literature suggests this kind of tenure change would occur only under significant duress and is likely to be traumatic for family members. Of the mothers that were interviewed in all three waves, only four were categorized as moving from owner to renter illustrating that this trajectory is unusual. Each of these 4 mothers’ interviews was analyzed. Seen together these families represented an extreme case and allowed comparisons between other housing trajectories (Creswell, 2007). We sought to learn from these mothers what challenges or risk factors played a part in reentry to the rental market after having lived in an owned home. Mothers categorized in this trajectory appear to be among the most fragile and vulnerable to changes in employment, family stability/organization, and health.

All four of the mothers in this category experienced at least one or more significant change(s) within their families including changes in partner status, the number of children living in the household, and employment status. Clorinda separated from her husband in Wave 2 but by Wave 3 they had reunited and were living together again. When Clorinda separated from her husband and moved out of their owned home she went to live with her mother and when she and her husband were reunited they moved in with her aunt before finally settling in a single family detached house that they rent. Gail was another mother who moved out of her owned home due to separation from her partner. By the third

interview Gail had moved in with a new partner in a rental house down the street from her old home. Marlene lived with an abusive husband in Wave 1. She had separated from him by Wave 2; then moved from her partner's owned home into a domestic violence shelter and then to a transitional housing shelter. By Wave 3, Marlene was receiving a Section 8 voucher and was employed.

Health of Owners to Renters and their Families. Given everything that is going on in the families of those who own and then rent, perhaps it is not surprising that health issues further exacerbated housing instability for this population. Marlene had suffered since 9th grade with chronic depression, panic disorder, and obsessive compulsive disorder. Her mental and physical health circumstances illustrate the impact health has had on her choices about housing tenure. Marlene was not able to rent her own apartment until she was 24 years old because of chronic mental health issues. In fact, she found herself homeless for a short period of time and could not sustain employment. There were even, "...a couple of points where I probably should have been hospitalized." Marlene says her mental health conditions have been diagnosed, treated, and are under control now, but every now and then she still has to force herself to get up out of bed. Marlene explains in Wave 1 how living with depression, an abusive husband and the birth of their daughter impacted her ability to make choices about housing, "I was thinking about moving out before I had Larissa, and I just couldn't bring myself to do it. I wasn't strong enough back then, either emotionally or physically, or mentally."

Like continuous renters, health insurance coverage was available for some owners to renters but still was not affordable because of the cost of premiums or co-payment requirements. Clorinda's story is illustrative; she had to dip into her savings in order to help

pay for a prescription for eye drops because she was intermittently covered by insurance over the course of the study. In Wave 2, Clorinda chose not to participate in the insurance coverage program available from her employer because the premium was \$50 a week. Instead she relied on the charity hospital in town or saw a doctor only if she really needed to. By Wave 3 she secured employment at a bank and decided to go with the medical insurance plan offered by her employer. Her partner currently does not have health insurance but her son is covered under Medicaid.

Gail's health resources were equally limited. Her partner in Wave 1 had health insurance coverage through his employer and the family could be added however, "...it's quite expensive, so we have the children on Child Health Plus. And right now I have Medicaid because I just had the baby, but that ends December 31. In Wave 2 Gail indicated that two prescriptions she needs cost \$90 and \$25 which she was not always able to afford so she cuts her pills in half to make them last. By Wave 3 she has secured Family Health Plus insurance, state health insurance for New York.

Renters to Owners

Morris and Winter (1975, 1978) theorize that families strive to move from renting to homeownership. Of the four mothers' interviews analyzed, two mothers bought homes and hold the mortgages in their own names without a partner's contribution and the other two mothers enter into homeownership with their partners. Homeownership most often was facilitated by 1) additional training and/or education that secured higher paying jobs for them or their partners and/or 2) various forms of support from families. Help for mothers and their families to move from rental to owned homes was often achieved through informal support

systems such as family and friends helping with monetary contributions and/or childcare, transportation, or sometimes a place to live for a while to save money on rent.

Increased income and family support are illustrated in Oceana's pursuit of homeownership over the course of the study. She is a single mother with two children who experienced marital instability (e.g. separated in wave 1, partnered in wave 2, and separated again in wave 3) but with additional training from her employer she now makes \$40,000 a year and has purchased a home on her own with the help of her family. Oceana was able to provide the down payment to purchase the home but she was not able to obtain a mortgage on her own due to a previous bankruptcy. Her grandfather co-signed a mortgage that allowed her to purchase a 4-plex where, in Wave 2, she lives with her children in one unit and rents out the other three units.

The other mother in this group that was able to enter into homeownership through additional education and training was Jolie, a single mother with two daughters. In Wave 1, Jolie was not employed, but was going to school full time to obtain her can. She ultimately hoped to become an RN. In Wave 2 Jolie had her LPN and was working full time making \$11 an hour. With the increase in income and informal support from her family Jolie was able to save and in Wave 3 we find out that she is now a homeowner. Over the course of the study, Jolie lived in a subsidized rental unit, and then moved back into her parent's home, and finally she had saved enough to purchase a single family detached house. Along her path, Jolie also had a lot of help from her family and friends with childcare and transportation.

Maeve and her family were helped by formal government support to become homeowners. She described her experience in Wave 1:

For instance the loan we are getting for the house that we are going to buy is through the USDA rural development and you have to be, that is graduated. Your payment is graduated depending on your income. And, from the chart that they had for seven people we were under the lowest ...

A unique type of informal assistance presented itself to Chevonne and her partner when they decided to become homeowners. She and her partner entered into an agreement with the landlord to purchase the trailer they were renting and the two acres of land on which the trailer was sited. This arrangement did not require them to secure a conventional mortgage through a bank. Chevonne and her partner started paying \$300 a month for the mortgage held by the previous owner, “No utilities are included. We pay \$300 on the payment of the house. 8% fixed tax rate. Plus the land taxes. Plus the propane. Plus the fuel oil. And the electric, the phone.”

Health of Renters to Owners and their families. Health problems plagued even those families who were able to purchase a home over the course of the study. Oceana was able to buy a home by Wave 3 even though she had miscarried between Wave 2 and 3 and is currently pregnant. Due to this high risk pregnancy she was not working and even though she was receiving disability, it constituted a big pay cut. Oceana was fortunate, however that she had income from her rental units and she had some savings. Oceana was also certain that her job would be there when she got back from her absence and even spoke about wanting to move up with the company, job security that many others interviewed did not have.

The difference between families with and without medical insurance and its impact on a family’s housing tenure trajectory is evident in Jolie’s case. Public support programs and financial support from family were also factors in sustaining homeownership once attained. Jolie was involved in a car accident in Wave 3 and had to take some time off of

work; she sustained an arm injury, which was the worst, but also spoke about pain in her leg and a potential pinched nerve in her neck and back. Even with a catastrophic event like the car accident, benefits provided by her employer (use of vacation time), help from family and friends (paying the mortgage and utilities), and Medicaid (all bills covered under Medicaid, one bill was \$29,000) contributed to Jolie's homeowner status.

Maeve credits careful budgeting and vigilant saving to the family's successful pursuit of homeownership. Maeve indicates her partner tries to calculate how much more he will have to work to pay for additional medical expenses. When Maeve needed to go to the dentist (they paid cash for the visit) he worked additional hours to cover the cost of the visit. Sometimes when she or her partner needed a prescription, they asked the doctor for a sample so they do not have to pay for medicine. All of Maeve's children have health insurance through Medicaid which also helps to keep their medical expenses low and protects them from the risk of losing their home. When one of their sons got a concussion playing football and ended up in the hospital, Maeve said, "Yeah...Kid's Connection [Medicaid program in their state] paid for it all. We would have been paying that for years I think."

Continuous Owners

In order to describe the circumstances of families that were continuous owners over the course of the study, six mothers' interviews were selected for in-depth analysis. Despite being homeowners over the course of the study, and even as mothers' described their attempts to 'move up the housing ladder' to bigger and better housing, maintaining homeownership was often threatened. Entrances in and out of the labor force, dealing with abuse and depression and other physical and mental health issues were ever present. We next focus on portions of these mother's stories that illustrate the 1) struggle to sustain

homeownership and those factors that permitted them to sustain homeownership and 2) the role of health circumstances in families' risk of mortgage delinquency.

Allene and Mallory, continuous owners over the course of the study, experienced a lot of changes in their lives which past research would suggest could be predictive of mortgage delinquency or default (Libman et al.; Smith, 2003). Allene was living with an abusive partner and their two children; due to the abuse Allene divorced her husband and struggled with depression. Both of her children also have physical and mental health issues that required medication and many doctors visits that could have compromised Allene's ability to remain in an owned home. Allene's daughter's mental health struggles stem from sexual abuse and have led to depression, which has made it nearly impossible for Allene to maintain employment. Over the course of the three wave study it is evident that Allene was able to sustain homeownership through the use of formal assistance programs such as Temporary Assistance for Needy Families (TANF/welfare), support for her daughter through disability payments, child support, and food stamps. Allene also had strong family support; her parents gave her \$1000 to pay the mortgage and purchased a vehicle for her.

Mallory was categorized as a continuous owner but she exited out of homeownership for a brief time between Wave 1 and 2. In Wave 1 Mallory, her partner, and their two children were living in a single family detached home that she and her partner owned together; at that time both of them were unemployed. By the time the Wave 2 interview was conducted Mallory had left her husband, moved out of their owned home to live with her adult daughter and then her sister, had rented a trailer by herself. Eventually Mallory began living in the home owned by her new boyfriend. Mallory's case demonstrates the fragility of the status of continuous ownership. Since Mallory was not the mortgage holder on the

property and she indicated she knew nothing about the monthly housing expenses paid by her partner, perhaps her status as a continuous homeowner should be questioned, though she was classified as such in the quantitative data portion of the study.

Health of Continuous Owners and Their Families: Even for continuous owners, health for mothers and their families impacted their lives and caused them to doubt their ability to sustain homeownership. One mother, Mallory, stated that, “It would be nice to have medical benefits for myself and my entire family that are affordable. In the past if I had gotten insurance for my entire family [through my employer], I would have been working for free. By the time I paid for insurance, I would only bring home \$50.00. Affordable health benefits would be great.” Even if families are able to get insurance through their employers it did not mean that health care was affordable. As Lina pointed out, her family had health insurance through her partner’s job, but they would try not to go to the doctors unless it was absolutely necessary because, “... it’s 45 dollars a visit...that is why we don’t go.”

Public and private insurance and benefits serve as a safety net and do appear to work for some families despite having experienced a series of health problems over the course of the study. Family support also helped them to sustain homeownership. Comfort was able to enter into homeownership with some informal support from her parents; she purchased the land from her father and then she and her partner bought her parent’s old trailer to put on the land. Both Comfort and her partner worked full time jobs throughout the course of the study and both jobs included benefits such as vacation time, paid overtime, and sick leave; she was a nurse’s aide at a hospital and he was a mechanic for the city. Another perk of her partner’s job was that he had health insurance benefits for the whole family. These benefits were extremely important to the family’s tenure stability. Comfort indicated this reliance on

health employer's insurance made her fearful of losing her home and land if she or her partner were to get sick and lose their jobs.

Abiona also benefited from employer's health insurance. In Wave 1 she was living with her partner and five children and another child was on the way. Though Abiona had worked as a Certified Nursing Assistance (CNA), by Wave 3 her health had impeded her from working; she described not being able to walk around or move and reported kidney problems, back pain, chronic pain, anemia, and frequent bladder infections as well as problems with depression. Her partner was employed with Coca-Cola and had health insurance for the family through this employer. For them, it appeared that homeownership was maintained thanks to continuous employment that provided good wages, opportunities for promotions, and much needed health insurance.

Overarching Themes

Over their careers, Morris and Winter (1978) maintained that homeownership was a key element for families' housing satisfaction and overall quality of life despite policymakers and other investigators' suggestions that homeownership is not in their best interest, particularly for low-income families. Although scholars sometimes scoff at the concept of the 'American Dream,' low-income, rural families appeared to subscribe wholeheartedly to culturally prescribed housing tenure norms. Two over-arching themes emerged from analysis of the data, striving for homeownership and the fragility of homeownership. Most continuous renters and those who moved from own to rent aspired to become homeowners. For those who began homeownership or were continuing ownership during the course of the study, the feeling of financial burden of homeownership alternated with a forward look to moving up the housing ladder to bigger and better housing.

Sadira, a renter over the course of the study, looking to the future says “Well, actually I was gonna get some property or something and I don’t know whether to build or maybe buy like a mobile home or something like that. Haven’t decided, but my goal is to get out [of these apartments].” By Wave 3 though when she is asked about saving money she says, “Hospital bills and uh, you know, all kinds of stuff. Loans we had to borrow from this one to pay, you know. So if I can get um these things down, paid off, then I’m, I’m good. And I can really save.” Similarly, Clorinda who was a homeowner in Wave 1 and rented a home in Wave 2, continued to say her main concern was about moving back into homeownership, “Well the main thing now, we are trying to find us a house and... now that I’m making more money if I’m making three hundred dollars a week I can pay everything and then when his check come[s] we’ll just put some up [to save for homeownership].”

Both Jolie and Oceana entered into homeownership during the course of the study and sought help from families and friend in their quest to become homeowners, even though poor credit scores, past debts or bankruptcies, or other strict lending practices posed constraints. In addition to financial help, mothers moved in with family members to save on rent and secure a down payment to buy a home. Interview data suggests too that despite health circumstances that impinged on homeownership, a constellation of formal housing assistance was brought to bear on the goal of homeownership from Medicaid and employer health insurance to USDA housing programs and rental subsidies.

Furthermore, homeowners, even those with health concerns and budget constraints, continued to aspire to more space and better quality homes. Darnita is the mother of three whose partner is employed. The family owned a home continuously over the course of the study. She indicated that in the last two years her family’s economic situation had not

changed much and they 'can meet necessities only.' Nevertheless, by Wave 2 Darnita and her family decided to purchase a bigger house. Perhaps not surprisingly Darnita expressed concern about the expense of a new home and said they were currently having trouble making the mortgage and utility payment, "well my husband hasn't earned much money this winter...he can put in more hours during the summer...so he can afford the house but barely so." Despite the uncertainty of additional income, by Wave 3 the family bought another home, pursuing more space and quality (also housing norms in the language of Morris and Winter). Darnita says, "It was too small where we lived before but this house where we live now is bigger...we have more room." The home in Wave 3 has 5 bedrooms; she notes "one for each family member."

Similarly, Lina, her three children and partner have lived in their owned home for 6 years at the time of Wave1 and they pay \$759 a month for their mortgage, which included property taxes. Lina started taking classes to become a teacher to increase her long-term earning potential. Later she indicated that even with financial aid and scholarships there were still expenses with school that have made it more difficult for the household to keep up on other payments. They manage because her partner has a good, steady job making \$2500 a month, she clips coupons and waits for things to go on sale before she buys them. They do not pay for childcare, they have a good supportive family, and she only pays the minimum on the credit card. Lina also utilizes other programs within her community to help make ends meet while she is in school including free school lunch for the children, utility company discounts, and assistance of \$1000 a quarter to help pay for tuition and books (part grant, part loan). In Wave 3, Lina and her partner are looking to move to a different home:

As soon as I finish this semester we're going to start looking. We've already

started a little, but we are really going to start seriously in a while...It's just we want a nicer place, with more room and we've seen some real nice houses, they're building new ones over there. I went to see the models. They'd be perfect. So, we're going to try for one of the new ones.

Discussion

This study contributes to the literature on housing tenure decision making and the role of the health circumstances of low-income rural families. Overall the analysis of 20 mothers' interviews illustrates that while the situations facing each are diverse, family health circumstances impinge on housing tenure decisions. Furthermore, comparisons among families in each of the 4 trajectories confirm the importance of and meaning attached to homeownership and the extent to which families will extend themselves to secure and maintain homeownership.

Morris and Winter's theory of housing adjustment (1975, 1978) was used to examine and explain how this population of rural, low-income mothers made decisions about housing tenure. Although families make choices about tenure in the face of constraints, the aspiration for homeownership looms large among rural, low-income families. All of these mothers and their families were constrained by resources (are low-income households). Nevertheless, over half of the families started as homeowners or become homeowners over the course of the study, indicating that income alone is not the only factor that plays a role in defining housing tenure trajectories (Bentzinger & Cook, 2012). Even for continuous owners, a loss of income did not mean a departure from homeownership; formal and informal support was secured to help them 'through rough patches.'

Over the course of the study, families experienced considerable turmoil and instability. Every mother reported some changes within the family that rocked the family

equilibrium; changes in household income, household composition, employment status, and physical and mental health conditions. Interestingly, few families specifically reported market changes or elements external to the family as causing them difficulty. Although only weakly discernible, it appears that mothers that were continuous owners and mothers that experienced a move from renter to owner had more stability and experienced fewer changes in their personal lives and with family health circumstances than their counterparts, continuous renters and owner to renters. Continuous owners and those that went from rent to own were not immune from struggles with family issues and changes in employment yet it seemed they may have had more control of their circumstances or a good safety net in place to deal with transitions. Notably, better jobs with access to health insurance may have separated continuous owners and rent to owners from renters. Arguably one of the most important findings of this study is that a move out of homeownership for mothers in the own to rent trajectory seemed to increase the risk for housing instability, including living doubled-up with family or friends and/or multiple moves in a short period of time. The finding supports Morris and Winter's (1975, 1978) hypothesis that the own to rent trajectory may be the most traumatic for families as a non-normative response; at the same time it is traumatic conditions in the family that trigger this housing adjustment response.

All of the mothers answered quantitative questions about health in the family, but in reading the qualitative interviews we found that for rural, low-income mothers, their family's health, both physical and mental, were interwoven with housing tenure decisions. "It's complicated" is the resounding mantra in examining housing and health circumstances. Talking about expenses and the ability to pay for shelter always seemed to come back to health conditions and health resources such as health care coverage.

Study Limitations

The qualitative methodology of this study means that the number of cases for analysis was small and challenges traditional notions of generalizability to a larger rural, low-income population and housing tenure decisions. Recently investigators have pursued more descriptive data and mixed-methods research to depict the lived experiences of low-income families especially to better understand the reciprocal relationship between housing conditions, community resources and family health circumstances. Another limitation of the study is that data in this study were collected before the housing-market crash of 2008. Our study did not capture family housing tenure trajectories post-2008. We might assume, however, that some families had to forego homeownership and some homeowners would re-enter the rental market and that health conditions could be exacerbated. Previous research confirms that both discrimination and subprime lending practices put low-income families at risk of bankruptcy and mortgage delinquency (Nettleton & Burrows, 1998; Libman et al., 2012) and increased mental health problems.

Conclusions and Implications

This study provides valuable information for policy makers and housing advocates to better serve the needs of rural, low-income families who desire to become homeowners. Few previous studies have investigated the experiences of poor, rural families and the reciprocal relationship between housing and health. To increase the likelihood that a mother will enter into and maintain homeownership, on the job training and additional education helped increase income and was often dedicated to housing expenditures. Formal and informal support was indicated as a factor that promoted the move into homeownership. For almost all the families in this study, health circumstances played a significant role in choices about

housing tenure. To assure housing tenure stability, both physical and mental health safety nets are critically important. Whether the safety net was personal savings, additional investments, informal or formal support (government or employment) it appears that mothers who had safety nets in place to deal with health challenges experienced more housing stability. For mothers who rented, health care costs appeared to stymie their pathway to homeownership; for mothers who owned, health care costs often seemed to loom large too, threatening the family's status as homeowners. Libman et al. (2012) found poor health increased the risk for foreclosure and the current study confirms that physical and mental health challenges are risk factors for families when making housing tenure decisions. Some participants spoke about the use of the Medicaid programs in their states to help pay medical and dental bills while some participants talked about being able to utilize charity hospitals to help save on medical expenses. It appears these types of formal supports are essential for low-income families when health care coverage is intermittent.

Not all low-income families desire to become homeowners; some prefer to exchange an affordable unit or a rental unit close to employment for homeownership. For some of the families in this study homeownership was not the end goal, but instead stability for their children, space (e.g. a big enough house or a yard to play in), and affordability (subsidized housing or use of a housing voucher) were more important to them than being classified as a homeowner. For housing professionals working with low-income families, finding out family preferences would permit services tailored to meet family housing needs. A holistic perspective, examining shelter, food, health, and economic decisions, is necessary as these decisions are integrally interwoven.

This investigation raises interesting questions for future research. For example, attention was brought to the phenomenon of mothers living in their partner's owned home, but not having their name on the mortgage. Future research should examine if the same benefits from homeownership accrue to these mothers or whether it increases their risk of reentry to the rental market. In this study a move out of homeownership and back to the rental market seemed to spark additional and frequent moves. Further research should also continue to examine the reciprocal nature of the complex relationship between health and housing, specifically how health may influence or constrain housing tenure choices. The study findings illustrate that housing and health needs often compete with each other for families' limited resources. Previously, neither studies in health or housing have underscored the complexity or given the "multi-directional link between them the attention deserved" (Smith, 2003, pg. 41). It has been called 'double jeopardy' by Libman et al. (2012) - families whose health is most precarious and who occupy the most inadequate housing in communities with the fewest resources. Policy makers, researchers, and housing professionals must acknowledge that housing and health are inextricably linked.

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Table 2.1. Housing Tenure, Sociodemographic, and Health Variables by Housing Tenure Trajectory.

HTT/Case #	Tenure	Partner	Ethnicity	# of children. In house	Mothers employment	Depression Score	Chronic Health Score
Continuous Renter							
CA104(Ynez)	R,R,R	Y,Y,Y	Hispanic	1,2,2	N,N,N	7,2,2	1,0
LA123(Sadira)	R,R,R	N,N,N	Black	2,2,1	Y,N,Y	15,22,10	1,1
MA108(Joelle)	R,R,R	N,N,N	Other	2,2,2	N,N,N	2,4,8	4,3
NY106(Sue)	R,R,R	Y,Y,Y	White	5,6,6	Y,Y,N	25,19,1	1,1
IA114(Estralita)	R,R,R	Y,Y,Y	Hispanic	4,4,4	N,N,Y	7,26,52	0,0,1
IN211(Eve)	R,R,R	N,N,N	White	1,1,1	Y,Y,Y	0,0,0	5,5
Own to Rent							
CA202(Zita)	O,R,R	Y,Y,Y	Hispanic	2, 2,2	N, N, Y	19,15,6	0,0
LA218(Chlorinda)	O,R,R	Y,Y,Y	Black	1,1,1	N,Y,Y	8, 14,9	1,3
MA123(Marlene)	O,R,R	Y,N,N	Other	2,1,1	N,N,Y	19,16,26	0,2
NY110(Gail)	O,O,R	Y,Y,Y	White	4,4,5	N,Y,Y	20,32,3	2,3
Rent to Own							
CA107(Oceana)	R,O,O	N,Y,N	Hispanic	2,2,2	Y,Y,Y	19,11,20	2,1
LA220(Jolie)	R,R,O	N,N,N	Black	2,2,2	N,Y,Y	5,5,15	-,0
NE208(Maeve)	R,O,O	Y,Y,Y	White	5,4,3	Y,Y,N	13,11,10	0,2,
NY107(Chevonne)	R,O,O	Y,Y,Y	White	2,3,3	Y,Y,Y	21,15,17	6,5
Continuous Owner							
IA104(Darnita)	O,O,O	Y,Y,Y	Hispanic	3, 3, 3	N, N, N	9,21,29	1,0,1
MD110(Abiona)	O,O,O	Y,Y,N	Black	5,6,6	N,Y,N	26,42,46	5,3
CA116(Lina)	O,O,O	Y,Y,Y	Hispanic	3,3,3	N,N,N	10,9,1	2,0
MA118(Allene)	O,O,O	Y,N,N	White	2,2,2	N,N,N	31,20,9	1,1
NY102(Comfort)	O,O,O	Y,Y,Y	White	3,3,3	Y,Y,Y	12,13,11	2,4
IN230(Mallory)	O,O,O	Y,Y,Y	White	2,0,0	N,Y,Y	25,10,20	3,3

Partner = married or cohabitation, O=Own, R=Rent, Y=Yes, N=No

Table 2.2. Housing Information for Participant by Housing Tenure Trajectory.

	Receives Housing Subsidy	Structure- Type	Did she move over the course of the study?	Monthly Rent/Mortgage	Desires to Become Homeowner?
Continuous Renter					
CA104(Ynez)	N,N,N	MF,MF,MF	N	\$390,\$260,\$475	Y
LA123(Sadira)	Y,Y,Y	MF,MF,MF	N	\$8,U,\$39	Y
MA108(Joelle)	Y,Y,Y	MF,MF,MF	Y	\$86,\$71,\$102	U
NY106(Sue)	N,N,N	SF,SF,SF	N	\$500,\$500,\$500	Y
IA114(Estralita)	N,N,N	SF,SF,SF	Y	\$230,\$350,\$325	Y
IN211(Eve)	N,Y,Y	SF,SF,SF	N	\$300,\$101,U	Y
Own to Rent					
CA202(Zita)	N,N,N	SF,SF,SF	Y	\$440,\$0, \$540	Y
LA218(Chlorinda)	N,N,N	U,SF,SF	Y	\$0, \$250,\$250	Y
MA123(Marlene)	N,Y,Y	SF,MF,MF	Y	\$900, \$275, \$400	U
NY110(Gail)	N,N,N	SF,SF,SF	Y	\$600, \$600, \$600	Y
Rent to Own					
CA107(Oceana)	N,N,N	U,MF,SF	Y	\$390,\$239,\$770	Y
LA220(Jolie)	Y,N,N	SF,MF,SF	Y	\$0, \$420, \$492	Y
NE208(Maeve)	N,N,N	SF,SF,SF	Y	\$550,\$550,\$550	Y
NY107(Chevonne)	N,N,N	T,T,T	N	\$300, \$300,\$300	Y
Continuous Owner					
IA104(Darnita)	N,N,N	SF,SF,SF	Y	\$0,\$550,\$550,	N/A
MD110(Abiona)	N,N,N	SF,SF,SF	N	\$570,\$570,\$570	N/A
CA116(Lina)	N,N,N	SF,SF,SF	N	\$759,\$800,\$749	N/A
MA118(Allene)	N,N,N	SF,SF,SF	N	\$550,\$506,\$551	N/A
NY102(Comfort)	N,N,N	T,T,T	N	\$0,\$0,\$0	N/A
IN230(Mallory)	N,N,N	SF,SF,SF	Y	\$429,U,U	N/A

MF=multi-family unit, SF=single-family unit, T=trailer, U=Unknown

Appendix A: Case summary notes to help demonstrate the analysis process

Case Summary Wave 3 – Each Wave 1, 2, and 3 interview was read in its entirety up to 3 times to get an understanding of the issues facing each of the 20 families analyzed for the study. Preliminary summary case notes were organized around three broad categories; e.g. sociodemographic, health and housing characteristic. These broad categories were factors that previous research suggests contributes to housing tenure trajectory.

This example of case summary notes illustrates the process undertaken including the use of text boxes to capture illustrative quotations.

Sociodemographic: Included here was information about partner status, number of children, employment for mother, partner and/or children, any type of household income, and education or additional education that was received.

Sadira is still living with her son who is in third grade and her daughter graduated high school and is in the air force, so she is no longer living at home. She is still with her boyfriend Gregory, but they have not gotten married yet because his job sent him to Virginia. She does not want to move to Virginia and just got a different job so will not be able to travel there as much either. Sadira received a job with the school district office as an accountant for a program and her salary doubled (\$18500 a year). Gregory still sends her money to help out with expenses too, but she does not mention how much a month. She also does some tax stuff on the side; made about \$5000 doing that last year.

She works 40 hours a week and gets other benefits like sick and vacation time. She has also been able to get some training

A friend of her boyfriend was trying to help get him licensed so offered to give him some contract work and in Virginia it is easier to get it.

“Getting things done. Getting out of debt. So, it's improving” (709). She does save, but not as much as she would like to.

“with this job I had to do some training. But, before I left the church, I went to a lot of grant writing workshops. Um, and actually I'm supposed to start doing an online accounting class as a refresher for me. Uh, but I haven't started yet. But hopefully, I plan to take me some classes this fall.” (292) she has to pay for her own course though and will probably use a Pell Grant to pay for it.

Immigration: Included here was any information about moving to the United States or experiences with deportation.

N/A. Sadira was not an immigrant.

Physical health: Included here was information about physical health conditions for mother, partner, and child(ren), information about insurance, prescriptions, and illnesses or injuries in the family.

She now has health insurance benefits through her job but her children still use LA CHIP. She was dealing with high blood pressure but resolved it herself.

"I started walking and just um changing my eating habits cause I would, used to do a lotta fried you know and stuff like that. So I don't do that anymore." (890)

Her boyfriend had an accident as well over the last year, "Skil saw popped back on it. My God, it was horrible! Almost cut his thumb off. And he stayed in the hospital three or four days and they binded it back together and he's fine now." Had to have two surgeries.

Mental health: When a mother spoke about mental health for herself, her partner, or child(ren) notes were taken here. Things like depression or experiences that may have impacted mental health such as death were noted.

One of her aunts that she was close to did pass away over the year.

"I think I'm more at peace now, you know, um just kind of satisfied with things" (1370)

Rural living: For each mother at each Wave notes were taken about what she enjoyed about her community, what she disliked about her community, access she had to different services, access to employment in the community.

As in Wave 1 and 2 Sadira mentions that she has everything she needs in the community and that there are many activities for her children to participate in.

Assistance/support: Included here were both formal and informal types of assistance such as the use of food stamps or WIC and how much the mother was receiving monthly. Informal support included things like talking about help from family or friends with childcare, transportation, money, and rent.

The people in her church are her support system. She still receives food stamps at \$247, but they are supposed to cease this month.

Housing: Included here was information on housing such as rent/mortgage payments, quality of housing, number of bedrooms, use of housing assistance such as Section 8, and plans for homeownership or risk of foreclosure.

Sadira is still living in the same place with her son so now there are three bedrooms for the two of them. She did have problems with the wiring for the phone, but when she first moved in they had just remodeled everything so she has not had problems with anything else. Her landlord is till good about getting things fixed, but the phone problem did take two weeks.

She knows everyone in her specific building and the children all get along so she feels safe.

She currently pays \$39 a month, but it will likely go up when they review her income again. She is currently trying to prepare for homeownership by paying off loans.

"Well what I'm really trying to do is pay off all of my um bills. Get my credit cards and stuff down and um where I can move out of these apartments. That's what I really want to do." (719)

Future: Included here was information on the future (e.g. are there plans for additional education, plans for homeownership, to get married, to move, what are the mother's goals for the next year to five years).

She would like to get some property and get her finances in order.

"Well, actually I was um get some property or something and um I don't know whether build or maybe buy like a mobile home or something like that. Haven't decided, but my goal is to get out" (1497), "Get my finances in order where I can do those things and I'm really working hard on it and just putting things in place to do it. "

Appendix B. Codes-categories-theme(s) and quotations illustrating themes

Codes	Theme: Striving for homeownership	Quotations illustrating themes	Interpretation
Employment/ Income		“Well, I have a budget. I try to stick to it. If I know what I have to do, I make sure that I do that. If there’s anything left over, then you know, I will try to put something aside for emergencies and that kind of things. But, it’s pretty much allocated for something.”	Continuous renter who desires to become a homeowner describes how she manages their household income. She is not able to put money aside for savings which impedes her ability to enter into homeownership.
Education		“with this job I had to do some training. But, before I left the church, I went to a lot of grant writing workshops. Um, and actually I’m supposed to start doing an online accounting class as a refresher for me. Uh, but I haven’t started yet. But hopefully, I plan to take me some classes this fall.”	Continuous renter who described the desire to enter into homeownership, this additional education may help her get a better paying job which could help remove barriers to homeownership
Health characteristics (chronic health conditions, illnesses or injuries, time off work, pregnancy)		“Skill saw popped back on it. My God, it was horrible! Almost cut his thumb off. And he stayed in the hospital three or four days and they binded it back together and he’s fine now.”	Continuous renter who described the desire to enter into homeownership, but this accident may delay.
Health resources (insurance, prescriptions, availability of)		“Well uh credits yes, I’ve had problems to pay...and also the children’s doctors...and Jennifer is sick and doesn’t have medicine anymore...I was paying ten or twenty dollars a month but one day I couldn’t pay anymore.”	Continuous renter who desires to become a homeowner. Medical expenses and illnesses prevent her from being able to save
Number of bedrooms		“Well, now with the new baby...we want to look for a bigger house...but for now...”	Continuous owner who desires to move up the housing ladder to another owned home that has enough bedrooms/space to accommodate all her family members

Rent/mortgage payment		“Um. The rent. They go according to your income. So that’s good. It is not so expensive...I pay \$8.00 a month”	Continuous renter who desires to become a homeowner even though she is only paying \$8.00 a month for her rent.
Quality of housing		“There are leaky pipes in the bathroom. The landlord tries to keep up, but they still break and leak...The apartments are just old.”	Continuous renter describing poor quality rental conditions and how the landlord cannot keep up. Perhaps one reason why she would like to enter into homeownership.
Debt/Bills		“Well what I'm really trying to do is pay off all of my um bills. Get my credit cards and stuff down and um where I can move out of these apartments. That's what I really want to do.”	Continuous renter who desires to become a homeowner describing the steps she is taking to help her achieve that goal in the future.

CHAPTER 3: EXPLORING HEALTH AND HOUSING TENURE TRAJECTORIES OF RURAL, LOW-INCOME FAMILIES

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Abstract

There is a growing interest in housing and health but there has been limited attention to how people's health affects their housing opportunities and the extent to which health circumstances and resources available to families may alter their housing trajectories. The purpose of this study was to investigate the impact of health and sociodemographic factors on three housing tenure trajectories – continuous owners, continuous renters, and renters to owners of 205 rural, low-income mothers sampled across 17 states and over three waves of data. Continuous renters were more likely to be receiving Medicaid coverage continuously over 3 waves of data collection, to be food insecure at Wave 1, and to have lower average monthly incomes. Owners to renters were less likely to experience an illness or injury, but were more likely to be food insecure and to have lower average monthly incomes. Health characteristics of mothers that were of interest, but were not found to have an association with housing tenure trajectories were mother's chronic health, and mother's anxiety/depression. Additional family health variables, such as partner physical and mental health were not able to be included in this analysis due to small sample size. A deeper understanding of the relationship between health characteristics and resources and housing tenure trajectories can help policy makers and housing professionals to help determine how to meet the housing needs of rural, low-income families.

Introduction

One of the important decisions families make is where to live. Understanding the factors affecting families' housing decisions is an important area of investigation. The study of the processes of residential mobility, housing tenure, and housing preferences continues to add to the explanation of housing adjustment behaviors. Much of the previous research has attempted to generate universal propositions about production, distribution, and consumption of housing across the metropolitan landscape with less attention to the complex patterns of preferences and opportunities available to families making housing decisions. Frequently, explanations of families' patterns and choices fail to account for the constraints experienced by low-income families, by those who live outside the metropolis and by those whose health and access to health resources affect the ability to secure the kind of housing they need or want. Often there is too little focus on the constraints that limit housing opportunities, on how these constraints came about and "only a limited understanding of their inter-relationship with preferences and attitudes" (Clapham, 2002, 58). In particular, although there is a growing interest in housing and health there has been limited attention to how people's health affects their housing opportunities and the extent to which health circumstances and resources available to families may alter their housing trajectories. The most dominant approach to the study of housing and health previously has been how health is impacted by inadequate housing; housing that is unsafe or structurally unsound or crowded poses health risks (Ahrentzen, 2003; Cairney, 2005; Evans, Wells, & Moch, 2003; Hartig & Lawrence, 2003; Hiscock, Macintyre, Kearns, & Ellaway, 2003; Lipman, Fields, & Saegert, 2012; Nettleton & Burrows, 1998; Saegert & Evans, 2003; Shaw, 2004; Smith, Easterlow, Munro, & Turner, 2003).

In past research several different terms have been used to describe the series of decisions made by families about housing. Housing adjustments (Morris & Winter, 1975; Quercia & Rohe, 1993), housing careers (Clark, Deurloo, & Dieleman, 2003; Pickles & Davies, 1991) and housing pathways (Clapman, 2002; Smith et al., 2003) have been used to depict the course and factors that affect families' housing circumstances and outcomes. Often terms such as these have focused on how families make decisions about housing based on the stages of the life cycle; the housing outcomes are expected to follow a predetermined path related to age, marital status, and family formation (Murdie, Chambon, Hulchanski, & Teixeira, 1999).

More recently, however, housing trajectories has been the terminology employed to characterize families and their actual housing behaviors, with an emphasis on the patterns experienced over time. Investigators have suggested this terminology as acknowledgement that a family's housing trajectory may not necessarily strictly or neatly move according to stages in the family life cycle (Clapham, 2005). Because the patterns of families' life cycles are changing (e.g. divorce, remaining single longer and cohabitation, delayed marriage and childbearing, etc.) it is not surprising that housing careers and pathways too are no longer easily depicted as a predetermined or fixed series of events.

Housing tenure – owning or renting a home – has been found to be of “key importance in understanding the holistic trajectories” of the life course (Pollack, 2007, 167). Of special interest among scholars, housing advocates, and policy makers, has been the opportunities available to families to own a home. Homeownership has been portrayed as a fundamental component of the “American dream.” It seems undeniable that families seek to own a single-family detached home and that both public policy and the private marketplace

have promoted homeownership, particularly for families with children (Cortes, Herbert, Wilson, & Clay, 2007; Eggers, 2001; Schwartz, 2010). Beginning in the mid-1990s it became relatively easy for families of all socioeconomic levels to obtain a mortgage loan and purchase a home. For example, between 1995 and 2005 homeownership rates increased by 6% from 1995 to 2005 for low-income households compared to a 4% increase among their higher-income counterparts (Joint Center for Housing Studies, 2010). Despite the U.S. housing mortgage “meltdown” in 2009, nearly 60% of all occupied housing units were owned compared to 27% rented (U.S. Census Bureau, 2009), and an initial recovery in 2013 is forecasted by the increased number of housing starts; in 2012 there were 781,000 single family detached housing units started compared to 554,000 in 2009 (HomeEconomics.com, 2013). Though the current crisis in the home mortgage industry and a rethinking of the federal bias toward homeownership may result in shifts in public policy regarding access to homeownership (Glaeser, 2011), there is little evidence that homeownership has declined in popularity among the U.S. citizenry. It appears owning a home is still important to families and may yield some important benefits to them (Aaronson, 2000; Green, 2001; Harkness & Newman, 2003; Haurin, Parcel, & Haurin, 2002; NeighborWorks America, 2007; Rossi & Weber, 1996).

The purpose of this study was to explore housing tenure trajectories – the pattern of ownership and renting - among a rural, low-income population over three waves of data collection. Three housing tenure patterns were examined: continuous owners; continuous renters; and those who changed from renting to owning over the course of the study. Of particular interest were family health factors associated with and comparisons between those in the three housing tenure trajectories. The data permit an unusual opportunity to examine

issues of housing and health in a rural context and among low-income families. This is important since a family's housing trajectory is conceptualized as a combination of household needs, preferences, and choices over time and the characteristics of the marketplace and the institutions that shape housing availability and consumption (Natalier & Johnson, 2012).

Literature Review

Predictors of Housing Tenure

There are a number of variables that previous research has indicated affect a family's housing tenure. Age, partner status, number of children, race/ethnicity, education, employment, and income are indicators found to facilitate or deter homeownership. Variables that have been shown in previous research to signal a transition into homeownership are an increase in householder's age (Clark et al., 2003; Haurin, Herbert, & Rosenthal, 2007), an increase in the number of children (Carasso, Bell, Olsen, & Steuerle, 2005; Hughes, 2004; Pickles & Davies, 1991; Rossi & Weber, 1996), the presence of a partner (Belsky & Duda, 2002; Bentzinger & Cook, 2012; Clark, Deurloo, & Dieleman, 1994; Cortes et al., 2007), race/ethnicity, specifically being white increases the probability that one will own his/her home (Bentzinger & Cook, 2012; Boehm & Schlottman, 2008), having more education beyond high school (Bentzinger & Cook, 2012; Boehm & Schlottmann, 2004), being employed (Clark et al., 1994), and having a higher income (Bentzinger & Cook, 2009; Boehm & Schlottmann, 2004; Di & Liu, 2007). Although some indicators of moving into homeownership are well established in the literature, until recently fewer studies have specifically focused on health and housing tenure.

Health and Housing.

The literature regarding the influence of housing on physical health is extensive; from examining how homeownership effects health (Haurin et al., 2002; Hiscock et al., 2003; Macintyre, Ellaway, Der, Ford, & Hunt, 1998; Nettleton & Burrows, 1998; Rossi & Weber, 1996) to the impact of affordable housing on health (Harkness & Newman, 2005; Lubell, Crain, & Cohen, 2007; Pollack, Griffin, & Lynch, 2010) and the health consequences of doubling up (Ahrentzen, 2003). This research has demonstrated that homeowners are healthier than their renter counterparts (Hiscock et al., 2003; Macintyre et al., 1998; Rossi & Weber, 1996); adults who live in owned homes are less likely to self-report fair or poor general health when compared to their renter counterparts (Rossi & Weber, 1996). Children living in owned homes have better physical health outcomes and fare better in school when living in an owned home (Haurin et al., 2002). However, mortgage indebtedness may increase the likelihood that homeowners, especially men, will visit their general practitioners (Nettleton & Burrows, 1998). Affordable housing appears to promote better health for adults and children (Lubell et al., 2007; Pollack et al., 2010) including better behavior and grade promotion for children living in affordable housing (Harkness & Newman, 2005). Finally, doubling up may intensify health conditions among children who live with respiratory infections, such as asthma, or increase the risk of exposure to other illnesses (Ahrentzen, 2003); however, it may also free up resources that permit parents to share home and childcare responsibilities and may also increase social interaction among household members, positively impacting both physical and mental health.

Mental health outcomes and housing has been investigated as well (Cairney, 2005; Evans, Lercher, & Kofler, 2002; Evans, Saltzman, & Cooperman, 2001; Lubell et al., 2007;

Nettleton & Burrows, 1998; Newman, 2001; Rohe & Stegman, 1994). In general, these studies posited that, for parents and children, homeownership, more affordable housing, and living in more affluent neighborhoods are all related to better mental health including socioemotional health, self-esteem, and life satisfaction. However, mortgage indebtedness was associated with reduced subjective well-being (Nettleton & Burrows, 1998).

Increasingly researchers are interested in the relationship between health care and housing costs; the tension between paying for housing, food, and medical expenses. Using data from the National Survey of America's Families, Long (2003) investigated food, housing, and health care hardships for a low-income population. She found that 40% of the population experienced some form of hardship, with a higher concentration among low-income families (72.9% vs. 31.4% for those with higher incomes). Furthermore, among those who were low income and also uninsured, nearly 60% experienced food and housing hardships. It seems likely that high medical costs stymie or constrain low-income households from entering into homeownership. Pollack et al. (2010) also found strong associations between housing costs and health care costs; "...unaffordable housing is associated with financial trade-offs and reduced discretionary spending on health-related expenses" (p. 519).

Much of the research that has been previously conducted however, has identified health as an outcome of housing circumstances and less research has examined the effects health has had on housing tenure choices. Libman et al. (2012) conducted multi-site focus groups to explore the relationship between health and foreclosure. They found that health and mortgage delinquency were reciprocally related; health-related issues such as a high risk pregnancy, an illness or injury, or lack of adequate health insurance increased the risk for

mortgage delinquency and foreclosure. Conversely, mortgage delinquency and/or foreclosure negatively affected mental health. Smith et al. (2003) also examined the relationship between health trajectories and housing pathways. They considered what happens when people with health problems try to access homeownership. Their findings suggest that people with health problems have a difficult time entering into homeownership due to ability to pay (decreased incomes and increased health-care expenses) and finding a suitable property that will meet their health care needs. In addition, sustaining homeownership was more difficult for people with health and mobility problems initially as well as for those that experienced health difficulties after attaining homeownership.

What we have learned about health and housing tenure is that there is a relationship, but previous studies have acknowledged that causality propositions about the relationship between health and housing are difficult to make (Bentzinger & Cook, 2012; Hartig & Lawrence, 2003; Hiscock et al., 2003; Nettleton & Burrows, 1998). In short, it appears that housing has an impact on health. Furthermore, a family's health conditions as well as the health resources available to them and the cost of those health care resources are associated with and likely affect the decisions families make about housing and shape their opportunities to own and sustain homeownership.

Housing Tenure in Rural Settings.

In 2012, rural homeownership rates were higher than the national average, 71.6% and 65.1% respectively (Housing Assistance Council [HAC], 2012a) and poverty rates were higher (16.3 % in rural areas compared to 13.8% nationally) (HAC, 2012b). Housing in rural communities is often more substandard; 5.8% of those living in rural areas experience moderate or severe housing problems. Although housing is usually lower in price, monthly

housing expenditures may surpass the recommended 30% of income rule of thumb for housing expenditures as a percent of income; over 7 million rural households (3 in 10) pay more than 30 percent of their monthly incomes toward housing costs (HAC, 2012c). In addition, there are other important systemic issues rural families face including access to services such as child care, healthcare, transportation; and access to public housing and medical assistance (Cook, Crull, Fletcher, Hinnant-Bernard, & Peterson, 2002; Fisher & Weber, 2002; Weber, McCray, & Ha, 1993).

Fewer and lower-wage jobs and/or longer commutes to jobs in a nearby metro area mean less disposable income available to families in rural areas (Cook et al., 2002; Simmons, Dolan, & Braun, 2007; Son & Bauer, 2010). Limited access to a vehicle or a working vehicle (Berry, Katras, Sano, Lee, & Bauer, 2008), and lack of quality child care options (Berry et al., 2008; Son & Bauer, 2010) are all other important and unique circumstances that rural, low-income families face. Access to health resources in rural settings for low-income families is limited as well (Arcury, Preisser, Gesler, & Powers, 2005; Hartley, Quam, & Laurie, 1994; Rural Assistance Center, 2013). The Rural Assistance Center (2013) reports that many health disparities exist for families living in rural areas including access to care (less than ten percent of physicians practice in rural areas) and less access to employer-provided health care coverage or prescription drug coverage. Despite the problems that persist in rural settings, family health and health resources and housing tenure patterns of low-income families living in rural communities has had very little attention in previous literature.

Theoretical Framework

Morris and Winter's (1975, 1978, 1996) theory of housing adjustment provided the conceptual underpinning for this study. This theory is used to explain how cultural and familial norms influence household decisions and outcomes including how constraints impact decisions about and acquisition of housing; how housing deficits affect housing satisfaction; and in turn, how housing satisfaction results in housing adjustment. See Figure 1 (Morris & Winter, 1996; Cook, Bruin & Yust, 2011). Both family and market characteristics shape the resources available to families (e.g. predispositions, household organization, resources, market, discrimination, and culture). These resources can either stymie or facilitate housing adjustment behaviors. Previous researchers have focused most on constraints to housing adjustment, employing a variety of proxy variables to capture these constraint arenas (Bentzinger & Cook, 2012; Bruin & Cook, 1997; Cook, Bruin & Laux, 1994; Krofta, Morris, & Franklin, 1994; Lodl & Combs, 1989). However, there is no specific attention drawn to families' health circumstances or health resources in the Morris and Winter model. It seems likely that variables regarding health would be viewed as family predispositions (mental and physical health characteristics) and/or as family and market resources, or as constraints to those resources.

Six housing norms affect a family's housing assessment and that predict housing satisfaction and, absent constraints, the desire to move or stay within a home: space, tenure, structure type, quality, housing expenditures and neighborhood norms. Housing deficits are depicted as a family's inability to procure the housing they want and what they want is a function of cultural housing norms. Continual assessment of conditions (constraints and deficits and resources) compared to family needs results in housing adjustments.

Adjustments to housing may be made by moving to a new location, by making structural changes to the current residence, by making adjustments to the household composition, or by making adjustments that include chronic dissatisfaction or social action. According to the model the ideal culturally prescribed home is one that has the number of bedrooms (space) required by the family, is single family detached (structure), is owned (tenure), and is of good quality (structurally sound), affordable (expenditures $\leq 30\%$ of income), and is in a suburban neighborhood (location). This prescription reflects cultural norms which can change over time, but tend to change very slowly.

The focus of this study is the housing tenure norm and the effect of health variables on housing tenure trajectories with interest in the implications of health variables compared to the contribution of conventional life cycle variables in explaining housing tenure trajectories. Families in the United States exhibit a strong preference for homeownership, which is demonstrated by the continuing demand; homeownership rates have consistently been well above 50% since 1950 (Schwartz, 2010). Expanding opportunities for homeownership among low-income families began as an explicit public policy goal during the Clinton administration and continued under the Bush administration (Retsinas, & Belsky, 2002). Even with the decline in homeownership rates after the burst of the housing bubble in 2008 and 2009, (The Joint Center for Housing Studies, 2010), homeownership was still 67.4% in 2010 nationally and remains a cornerstone of economic recovery and stimulus plans in the United States. Most recently the Obama administration committed to creating programs and policies to help homeowners avoid foreclosure, stabilize the country's housing market, and improve the nation's economy (e.g Making Home Affordable) (makinghomeaffordable.gov, 2013).

Research Questions

Of interest in this study were the patterns of housing tenure decisions over time among rural, low-income families. The current study was guided by recent investigations that have concluded that the health circumstances of rural, low-income families and both the formal and informal health resources available to them have an impact on housing tenure decisions (Bentzinger & Cook, 2012; 2013; Lipman et al., 2012; Smith et al., 2003).

The hypotheses emanating from the previous studies generated the following questions:

Question 1: Are health variables (e.g. illness or injury in the family, mother's self-reported anxiety/depression, Medicaid assistance at Wave 1 and continuous Medicaid assistance, food security, and creating support networks) associated with housing tenure trajectory?

Question 2: How does the addition of sociodemographic variables (e.g. partner status, monthly household income, and mother's employment) to health variables affect the overall explanation of housing tenure trajectory?

Methods

Data for this investigation come from the Rural Families Speak Project (NC1011), a multistate longitudinal study of low-income rural families and their well-being after welfare reform (Bauer, 2004). Face-to-face interviews were conducted between 1999 and 2006, each lasting approximately two hours. In each wave, the questionnaire had a common set of core questions asked of each participant to provide consistent quantitative data on each family. The structure of the interview allowed for the participant to expand on some topics with open-ended and short-answer questions to provide qualitative data to supplement the

quantitative data. Over 500 respondents, all mothers with at least one child under 12 years old, from 17 states and 30 U.S. nonmetropolitan counties were queried about their socioeconomic, demographic, housing, and health characteristics and those of each of their family members. Both the quantitative and the qualitative portions of the data were compiled by a university team at Oregon State University (Bauer, 2004). The NC1011 data set was selected in order to extend a previous investigation of determinants of housing tenure of respondents at wave 1 (baseline) (Bentzinger & Cook, 2012) and a qualitative study of families' housing experiences (Bentzinger & Cook, 2013) and because it provides one of the few longitudinal data sets of rural, low-income families.

Sample

Participants in the Rural Families Speak Project were mothers, 18 years or older, who had at least one child who was 12 years old or younger and who had incomes below 200% of the poverty level at the inception of the project. Families selected to be interviewed had to be eligible for or receiving food stamps or Women Infants and Children (WIC) Program transfers. Participants were recruited from a variety of human service agencies that work with eligible families (e.g. Food Stamps, WIC Program, Head Start, Social Services offices, Housing Authority offices, food pantries, Latino Migrant and Settled Workers Program, etc.).

For this study, a subsample of 271 cases, including only participants who were interviewed in each of the three waves,³ was selected. Due to the longitudinal nature of the current study (utilizing three points of time) many cases were removed due to a missing

³ Wave 1 consisted of 523 cases from three panels of data collection; a unique case, OR107, did not have interview data for Wave 1. Follow-up interviews for the state of WV and some OH cases were not conducted for wave 2 ($n = 58$), and SD and WY participated only in wave 1 ($n = 38$). The following states had missing interviews for either wave 2 or wave 3: IA ($n = 11$), KY ($n = 9$), OR ($n = 6$), OH ($n = 6$), NY ($n = 1$), NH ($n = 10$), NE ($n = 7$), MN ($n = 9$), MI ($n = 25$), MD ($n = 14$), MA ($n = 10$), LA ($n = 16$), IN ($n = 23$), and CA ($n = 9$), for a total of 156 cases that did not have interviews conducted in wave 2 and/or 3.

interview in one or more of the three waves. Cases that were missing information on housing tenure were also eliminated as were cases coded as “other” (not owning or renting), resulting in the deletion of 58 case.⁴ Additionally, three cases (IN231, MN205 and NH117) were removed due to multiple changes in housing tenure over the three waves. Finally due to the low number of cases that experienced a housing tenure pathway from own to rent, four cases (CA202, LA218, MA123, and NY110), were removed from the data set as well. After all unusable cases were removed from the longitudinal data set, there were 205 cases left for analysis in the current study.

Of the 205 families in the sample used for this study, 111 had continuously rented their dwelling over the three waves of data collection, 32 families had changed their housing tenure from renter to owner, and 62 families had owned their residences continuously. On average these 205 participants were 32.03 years old at Wave 1, had an average of 2.5 children with the youngest child having a mean age of 3.8 years. Over half of the participants (62.4%) were White non-Hispanic, 25.9% were Hispanic/Latino, and 4.9 % were African American. In 2010, Latinos accounted for 16.3% of the U.S. population and African Americans accounted for 12.6% of the total U.S. population (U.S. Census Bureau, 2010b). Thus, compared to the U.S. population as a whole, Latinos were overrepresented and African Americans were underrepresented in the sample of this study. At Wave 1, a total of 121 participants (59%) of the study’s sample of 205 reported that they were married or had a cohabitating partner. Just over half of the participants (55.6%) were working at Wave 1, and the average monthly household income of all participants was \$1,486.36, with a range of

⁴ Examples of this include if a participant was living with a relative, if their housing was provided by an employer, if they reported they were living in a trailer and did not indicate whether it was owned or rented, or if they simply did not report on that question at wave 1, 2, or 3.

\$4,778 with 5 mothers reporting an average monthly income of zero dollars. Educational attainment was categorized into three groups: less than high school diploma (28.3%), high school diploma (27.3%), and beyond high school diploma (44.4%). On average, 78% of family members within each family were covered by medical insurance; 136 mothers (66.3%) reported receiving Medicaid assistance at Wave 1. Mothers, on average, experienced 2.3 chronic health problems out of 19 chronic health problems identified. Experiencing migraines and allergies were the most commonly reported; 86 and 63 mothers respectively reported yes on living with these chronic physical health conditions. Liver problems were the least likely to be reported in Wave 1 with only 2 mothers reporting the condition. Sixty-eight mothers (33.5%) reported experiencing depression or anxiety. Finally, just over half of the families (50.3%) received scores on the food security scale that categorized them as food secure.

Over the course of the study, from Wave 1 to 3, mothers reported on average an increase in average monthly income in the amount of \$596.39. Thirty nine mothers (19%) experienced a change in partner status over the three waves, 49.5% had the opportunity for additional education or training and 72 mothers (35.1%) reported a change in employment between waves. Over three waves of data collection 149 mothers (72.7%) reported that someone in their family experienced an illness or injury. Finally 41.5% of mothers received continuous Medicaid coverage over the course of the study.

Data Analysis Procedures

Descriptive Statistics. Means, standard deviations, and frequencies were calculated using SPSS.

Mean Differences. Mean differences were analyzed among three housing tenure trajectories to depict preliminary differences among those who were categorized as continuous owners, continuous renters and those who moved from renting to owning homes. Analysis of variance (ANOVA) and chi square analyses were conducted to produce these results.

Correlations. Bivariate correlations were computed to assess statistical associations among variables in Wave 1, among change variables, and among health variables. Bivariate correlations helped to identify which variables were highly correlated to help reduce the number of predictor variables used in the multinomial regression analysis.

Multinomial Logistic Regression. Results from the descriptive statistics, means differences, and correlations were used to identify health and sociodemographic characteristics to be included in the multinomial logistic regression analyses. Multiple logistic regression was employed because it permits the examination of the relationship of independent variables to a categorical variable. Two multinomial logistic regressions were conducted (Figure 3.2), one that focused exclusively on health conditions and resources and housing tenure trajectory and a second in which sociodemographic variables were added to permit a cursory examination of health and life cycle events and the effect on housing tenure trajectory. In model 1, the set of health and health resource variables included (injury or illness in the family, mother's self-reported anxiety/depression, whether or not Medicaid assistance was received in Wave 1 and whether or not Medicaid was continuously received, food security, and whether or not the mother felt she could create a social support network) to predict their relationship to housing tenure trajectory. A second regression was then conducted to see the impact of adding key sociodemographic variables from Wave 1 (partner

status and household income) along with the health variables to the overall association of the dependent variable.

Lastly, based on the results of the multinomial regression analyses a structural equation model was developed. Though not yet tested, the model depicts the hypothesized relationships between sociodemographic variables at Wave 1 and change variables to health circumstances and resources that may mediate, link particular conditions to outcomes, outcomes associated with housing tenure trajectory; Figure 3.3 displays the proposed model for potential future research.

Measures

The names and descriptions of the variables from Wave 1 and the coding to be used in this study are shown in Table 3.1. The change variables descriptions and codes can be found in Table 3.2.

Dependent Variable

The dependent variable, housing tenure trajectory, was a categorical variable. Those households that identified themselves as renters in waves 1, 2, and 3 were classified as continuous renters (category 1; n=111); similarly those that reported ownership of their home in all three waves were classified as continuous owners (category 3; n=62). Those households that reported a change in housing tenure from Wave 1 to Wave 3 from renter to owner were classified as category 2, rent to own, n=32.

Independent Variables

Mother's Physical Health. Mother's physical health was measured using a simple sum of chronic health problems using Berry, Katras, Sano, Lee, and Bauer (2008) as a guide. Mothers were asked to report no (coded as 0) or yes (coded as 1) on questions related to

chronic health conditions such as heart problems, cancer, permanent disability, and allergies. The higher the total number the more chronic health problems the mother reported (a full list of all 19 chronic health variables can be found in Table 3.1). The number of total chronic health problems among the sample ranged from 0 to 13.

Mother's Depression/Anxiety. Mother's depression or anxiety was a self-reported measure asking if the mother had experienced depression or anxiety in the last year (0=no; 1=yes). Self-reported depression/anxiety is used in this study as an indicator of mental health status.

Family medical insurance coverage. An indicator of family health status was measured through a variable constructed for this study to identify the availability of medical insurance coverage for each member of the family. The family medical insurance coverage variable is a ratio created by first summing all the family member medical insurance questions (e.g. does participant have medical insurance; 0 = no, 1 = yes); the mother was asked to answer this question for all members in the family including a partner, if there was one, and each child. Once the total number of family members with medical insurance was calculated, the sum was divided by the total number of family members living in the home to represent a percentage of the family members that were covered by health insurance (e.g. if 4 out of 5 family members had medical insurance, the family had a 0.80 ratio of family medical insurance coverage).

Food security. Food security sometimes is used as a proxy for health (Bentzinger & Cook, 2009; Berry, Katras, Sano, Lee, & Bauer, 2008). The food security status of the household was measured using the 18-item Core Food Security Module (Hamilton, Cook,

Thompson, Buron, Frongillo, Olson, & Welher, 1997). For the analysis, the household was coded as either food insecure (coded as 1) or food secure (coded as 2).

Family illness or injury over the course of the study. A single question asked the mother if she herself, her partner, and each child had experienced an illness or injury in the previous year (0 = no, 1 = yes). The question was asked in each wave of data collection and in this study was used to indicate unexpected family health issues over the course of the study. A dummy variable was created to show whether or not any person identified to be in the family experienced an illness or injury over the course of the study (0 = no there was no injury or illness in the family over the course of the study in Wave 1,2, or 3; 1 = yes; there was an illness or injury of mother, partner, or child in Wave 1, 2, or 3).

Medicaid Assistance Wave 1. A single question asked in Wave 1 was, “In the last year was anyone in the family covered by Medicaid insurance?” Mothers answered this question in a section of the interview about the types of assistance mothers received during the prior year. If the mother reported no she was coded as 0, but if she reported yes, that someone in her family was receiving Medicaid coverage, she was coded as 1.

Continuous Medicaid Assistance. Similarly the Medicaid question was asked in Wave 2 and 3. To determine if the mother, or someone in her family, was receiving assistance from Medicaid over waves 1, 2, and 3 a dummy variable was created; did the mother report continuous Medicaid assistance throughout the three waves of data collection (0=no; 1=yes).

Creating a Support Network. A question from the life skills assessment asked, “do you know how to create a personal support network?” Respondents were able to answer no, coded as 0, or yes, coded as 1. The variable was selected for use in this quantitative analysis based on previous qualitative research (Bentzinger & Cook, 2013) that demonstrated

informal and formal support from family and friends were associated with entering into and sustaining homeownership even among those who had family members with physical and mental health.

Sociodemographic Wave 1 Variables. Sociodemographic Wave 1 variables that have been included in the analysis are the mother's age, mother's ethnicity, partner status, mother's education, mother's employment status, and monthly household income. These variables were measured at Wave 1, the starting point for the examination of housing tenure trajectories. Mother's age on 12/31/2001 was measured as a continuous variable as was monthly household income; monthly household income was a continuous variable transformed to thousands of dollars for the regression analysis to convey more easily interpretable results. Mother's ethnicity was categorized as non-Hispanic/White (1), Hispanic/Latino (2), African American (3), and other (4). Partner status reflects if the mother indicated she was married or she indicated she lived with a partner at Wave 1 (0 = no partner, 1 = partner); if the mother was separated, divorced, or single, she was coded as not having a partner. Mother's education was recoded from eight categories into three: less than high school = 1; high school diploma = 2; and beyond high school = 3, which included specialized technical, business, or vocational training; some college; and college graduate.

Sociodemographic Change Variables. Changes that occurred in selected sociodemographic and health variables were measured by variables created for the study in which data from Wave 1 (baseline) were compared with data in Wave 2 and Wave 3; e.g. change in partner status, opportunity for additional training/education for mothers, change in employment for mothers, and change in monthly family income.

Change in partner status was reported as 0=there was a change, 1= no change. If the mother did not receive additional education or training over the course of the study it was coded as 0; if she did receive additional education or training in Wave 2 or Wave 3 it was recorded as 1. Change in mother's employment status was also a dummy variable that was created to represent whether or not the mother changed her employment status at some time during the course of data collection; 0 = no change in employment status, and 1= change in employment status in Wave 2 or 3. Due to the continuous nature of monthly household income, change in monthly household income was calculated by subtracting Wave 1 values from Wave 3 values to indicate if the change was an increase or decrease and by how much between Wave 1 and Wave 3.

Results

Descriptive Statistics and Mean Differences

In Table 3.3 displays information on health characteristics for these families both in Wave 1 and over the course of the study. Table 3.4 sociodemographic information is displayed for each of the housing tenure trajectory categories over three waves of data collection. These tables also indicate the results from the ANOVA and chi-square analyses (mean differences).

Health variables. Neither of the continuous variables regarding health, family insurance coverage ratio and mother's chronic health, yielded significant differences by housing tenure trajectories in an ANOVA test, $F = .03, p = .97$ and $F = .32, p = .73$ respectively. Continuous renters and owners and renters to owners are similar at Wave 1 to continuous owners in terms of family insurance coverage ratio and mother's chronic health conditions; however, continuous renters were the group that reported on average the most

problems with chronic health conditions (2.43 compared to 2.27 for renters to owners and 2.16 for continuous owners).

Mean differences of six categorical health variables by housing tenure trajectory were tested using a chi-square analysis and significant differences were found: illness or injury in the family [$\chi^2(2, N = 205) = 7.37, p = .03$]; mother's self-reported anxiety/depression [$\chi^2(2, N = 203) = 10.49, p = .01$]; receipt of Medicaid assistance in Wave 1 [$\chi^2(2, N = 205) = 11.03, p < .01$]; continuous receipt of Medicaid assistance, [$\chi^2(2, N = 205) = 13.89, p < .01$]; food security [$\chi^2(2, N = 197) = 15.29, p < .01$]; and mother's perceived ability to create a personal support network [$\chi^2(4, N = 205) = 17.63, p < .01$]. Continuous owners were less likely to report feelings of anxiety/depression, less likely to be receiving Medicaid at Wave 1 and less likely to be in continuous receipt of Medicaid compared to continuous renters and renters to owners. Similarly, continuous owners were more food secure than their counterparts. However, renters to owners was the group of mothers that was less likely to report an instance of illness or injury over the course of the study and continuous renters were most likely to report that they knew how to create a support network (75.7%, compared to 59.4% for renters to owners and 72.6% for continuous owners).

Sociodemographic variables. The continuous sociodemographic variables participant's age, total monthly household income, and change in income were analyzed using an *F* test (one-way ANOVA). Monthly household income at Wave 1 and change in income between Wave 1 and Wave 3 did not have statistically significant differences between the three housing tenure trajectory groups, $F = 1.53, p = .15$ and $F = .751, p = .47$ respectively. The participant's age was significant at the $p = .05$ level, indicating that the means for this variable were different among the three housing tenure trajectories, $F = 11.19,$

$p < .01$; continuous owners were more likely to be older than their continuous renter and renter to owner counterparts.

The categorical sociodemographic variables that were analyzed using Pearson's chi-square statistic included partner status at Wave 1, changed partner, mother's race/ethnicity, mother's education at Wave 1, the opportunity for additional training/education for mothers, mother's current employment status at Wave 1, and change in mother's employment. Only two of the six sociodemographic variables had significant mean differences between the three housing tenure trajectories: partner status at Wave 1 and mother employment status at Wave 1; $\chi^2(2, N = 205) = 17.77, p < .01$ and $\chi^2(2, N = 205) = 10.44, p = .01$, respectively. These results suggest continuous renters and renter to owners were less likely to have a partner than continuous owners. Those categorized as renters to owners were more likely to be employed (78.1%) compared to their continuous renter and owner counterparts, 46.8% and 59.7% respectively.

Correlations

A correlation table of all of the variables employed in the study can be found in Table 3.5. The results showed that there were statistically significant relationships between many of the variables that previous literature has shown to be linked to homeownership. These correlations indicate that there is a positive relationship between housing tenure trajectory and mother's age [$r(204) = .30, p < .05$], partner status at Wave 1 [$r(205) = .22, p < .05$], mother's employment at Wave 1 [$r(205) = .16, p < .05$], and total monthly income [$r(205) = .39, p < .05$] and a negative relationship between mother's self-reported depression/anxiety [$r(203) = -.22, p < .05$], receipt of Medicaid assistance in Wave 1 [$r(205) = -.22, p < .05$], continuous receipt of Medicaid [$r(205) = -.26, p < .05$], and food security [$r(197) = -.27, p < .05$].

.05]. Taken together these bivariate associations suggest that as mother's age increased, as the likelihood that mothers have partners and were employed at Wave 1 increased, the likelihood that families were categorized as continuous homeowners increased. Decreases in mother's self-reported depression, decreases in receipt of Medicaid assistance in Wave 1, decreases in continuous receipt of Medicaid assistance over three waves and decreased food insecurity were associated with increases in the likelihood that a family was categorized as a continuous owner. An examination of the correlation matrix also helped to identify any multicollinearity between independent variables. Using a correlation of $r \geq 0.60$ no multicollinear bivariate correlations were detected.

Predicting Housing Tenure Trajectories

Table 3.6 shows the results of the multinomial logistic regression examining health factors only and housing tenure trajectory; the upper portion of the table indicates the results of the mothers who were continuous renters while the lower portion shows the results of those that changed tenure status from rent to own. These results are compared to the group of mothers who were continuous owners, the reference category in the multinomial logistic analysis. Table 3.7 displays the results of a multinomial regression that includes sociodemographic variables as well as health variables. The tables include logistical coefficients for each variable as well as odds ratios and probability values.

Variables selected for inclusion in the multinomial regression analyses were purposefully selected (e.g. family illness or injury over 3 waves; mother's anxiety/depression at Wave 1; Medicaid at Wave 1; continuous receipt of Medicaid; food security; support network; then in Model 2, partner status and average monthly income at Wave 1). Not every variable of interest was included in the regression analyses because we limited our focus to

health and health resources and because the number of cases was small; e.g. mother's age, change in income, change in partner status, mother's race/ethnicity, mother's education, mother's additional education/training, mother's employment status, change in employment status, family insurance coverage ratio, and mother's chronic health at Wave 1.

Both models, model 1 with health variables alone and model 2 with the addition of sociodemographic variables, were found to be significant in predicting housing tenure trajectory and accounted for 23% and 36%, respectively, of the variance in predicting housing tenure trajectory for this sample. When the explained variability in the models were compared there was a statistically significant result; the larger model explained more variance than the smaller model. In comparing the two models the chi-square value would need to be more than 9.49 with four additional degrees of freedom to be significant at the $p \leq .05$ level (Agresti & Finlay, 2009). The larger model exceeded this by explaining more than 36.09 of the variance when compared to the smaller model.

Predicting Continuous Renter. Factors that significantly increased the odds of being a continuous renter in model 1 (health variables), rather than a continuous owner, were continuous Medicaid assistance throughout the three waves of data collection and food security. Receipt of Medicaid over 3 waves of the study decreased the odds of the mother being a continuous owner by a factor of .36, holding other variables constant. Mothers that were categorized as continuous renters were 65% more likely to receive continuous Medicaid assistance throughout the course of the study when compared to their continuous owner counterparts. Continuous renters were also more likely (69%) to be food insecure at Wave 1 (odds ratio = .31, $p = .00$) compared to continuous owners. Another variable in the health model that was approaching significance was the mother's anxiety/depression (odds ratio =

-.47, $p = .07$); mothers who were continuous renters were more likely to report anxiety or depression at Wave 1 compared to continuous owners.

In model 1, variables that did not contribute significantly to the prediction of housing tenure trajectory were the variables receipt of Medicaid at Wave 1 and mother's perceived ability to identify a support network. Family illness or injury reported in either Wave 1, 2, or 3 was significant related to rent to owners but not continuous renters when compared to continuous owners.

When in model 2 the variables monthly household income and partner status were added, the results showed that income had a significant impact on housing tenure trajectory when comparing continuous renters to continuous owners (odds ratio = .27, $p < .01$) but mother's partner status in Wave 1 did not. Higher incomes decreased the odds of a continuous rental patterns for mothers by a factor of .27, holding other variables constant. In other words a higher level of income at Wave 1 increased the likelihood for a mother to be a continuous owner 73% over the course of the study. Like in model 1, continuous Medicaid assistance and food security were still significant, (odds ratio = .36, $p = .05$ and odds ratio = 5.28, $p < .01$ respectively), suggesting that the odds of being a continuous owner were reduced for continuous renters who continuously received Medicaid, were food insecure and had lower average monthly incomes. However, mother's anxiety/depression did not play a significant role in explaining housing tenure trajectory of continuous renters in model 2 compared to model 1 ($p = .567$).

Predicting Renter to Owner. Factors that had a significant impact on the housing tenure trajectory renter to owner when compared to continuous owners in model 1 were family illness or injury in the health model (odds ratio = 3.54, $p = .01$); these results showed

a positive relationship by a factor of 3.54 between renters to owners and family illness or injury (e.g. renters to owners were three and a half times less likely to experience an illness or injury over the course of the study than continuous owners). When income and partner status (model 2) were included in the model, family illness or injury remained significant as a predictor of renter to owner. Additionally average monthly income and food security became significant in predicting this housing tenure trajectory. Taken together, these results show that compared to mothers who are continuous homeowners, the mothers who move from renter to owner are more disadvantaged at Wave 1 in terms of income, and food security, but these mothers also seem to experience less instances of unexpected illnesses or injuries than continuous owners over the course of the study.

Discussion

This study explored the role of family health conditions and health resources and sociodemographic variables in explaining three housing tenure trajectories among a sample of rural, low income families. The housing tenure trajectories of mothers in the sample were categorized as either continuous renters, renters to owners, or continuous owners. Absent sociodemographic factors, a multinomial regression analysis (model 1) showed that continuous renters were more likely to receive continuous Medicaid coverage throughout all three waves of data collection and were more likely to be food insecure – a proxy for family health - when compared to continuous owners. Furthermore, continuous renters were more likely to report mother's anxiety/depression, a health variable that was approaching statistical significance. When compared to continuous owners, renters to owners were less likely to experience a family illness or injury over the course of the study. Model 1 explained 23% of the variance in housing tenure trajectories.

In a second model, sociodemographic variables were added to examine the effect of selected life cycle proxy variables on housing tenure trajectories. The variables average monthly income and mother's partner status at Wave 1 were selected for Model 2 and added to the overall explanatory power; 36% of the variance in tenure trajectories was explained. In this model 2, monthly income of the household was a predictor of housing tenure trajectory for those that were continuous renters and those that changed housing tenure from renter to owner when compared to continuous owners; continuous renters and renters to owners had lower incomes than continuous owners. The presence of a partner in Wave 1 was insignificant in model 2; it did not predict housing tenure trajectory. However, bivariate correlations suggest that partner status and income are significantly associated, $r(205) = .53$, $p < .05$, indicating that those mothers with a partner have higher incomes. This could mean that partner's employment status, over time, may have an important impact on housing tenure trajectories, perhaps as important, or more important than mother's employment. Average monthly income was used as a proxy for mother's and partner's employment due to the small size of the sample.

The small sample size ($N=205$) did not permit examination of all the variables available in the data that might have contributed to the overall prediction of housing tenure trajectories. Multinomial logistical regression analysis was selected as the statistical tool to examine three housing tenure trajectories; but each of the three categories was small. To avoid overfitting of the model, the rule of thumb requires that there needs to be at least 10 events in the dependent variable per independent variable analyzed (Peduzzi, Cancato, Kemper, Holford, & Feinstein, 1996). For example, in this sample there were 62 continuous owners so there should be no more than six independent variables tested per model. The

owner to renter category contained only 32 respondents and the number of independent variables (6) in model 1 and 2 violated this rule of thumb. Some variables were excluded in the regression analysis due to avoid exacerbating this problem (e.g. participant's age, change in income, change in partner status, mother's race/ethnicity, mother's education, additional education/training, mother's employment status, change in employment status, family insurance coverage ratio, and mother's chronic health at Wave 1).

The small sample limited our ability 1) to assess some family health conditions and health resources of interest including changes in family members' physical and mental health and a more finely crafted variable of chronic health conditions over the course of the study; 2) to more completely examine life-cycle stage at Wave 1, changes to life cycle variables over the course of the study, and the relative contribution of sociodemographic compared to health variables to housing tenure trajectories; e.g. mother's age, number of children, changes in partner status, changes in income, and mother's opportunity for additional education/training; and 3) to compare housing trajectories of mother's with and without partners (and intermittent/changes in partnerships), focusing on partners' health conditions, those of their children and changes over time. Our previous qualitative research (Bentzinger & Cook, 2012; 2013) and that of others (Lipman et al., 2012; Natalier & Johnson, 2012; Smith et al. 2003) have impressed on us the complexity of relationships between and among family health characteristics and resources and housing tenure trajectories. To date quantitative examination of health conditions and health resources falls short of representing the intricacy of factors impinging on families housing tenure trajectories.

Despite the unique opportunity to use a longitudinal data with a sample of rural, low-income families, the NC1011 data itself had some shortcomings that also limited the ability

to answer completely the role of health variables in predicting housing tenure trajectories. Ideally better measures of physical and mental health for mothers, children and partners and changes in them would have been included in these models had they been available. For example, mother's depression/anxiety is a simple dichotomous measure in these data. More complete measures of depression and other aspects of mental health would have enhanced our ability to evaluate mental health and housing tenure trajectory. Health resources available to low-income families over three waves of data collection would also improve our understanding of community medical services, programs, and facilities that affect housing tenure trajectory (e.g. public, private, employer health benefits including sick leave), charity hospitals, food security, and individual health improvements (e.g. some mothers talked about walking or eating better to improve health in qualitative data). Some of these items appear in the data but there were too many missing cases for them to be useful in analyses.

There were only 4 cases where mothers had moved from ownership back to the rental housing market. It is important that researchers and policy makers continue to examine this category of housing tenure trajectory, especially in light of the recent crash of the housing market. Recent research suggests that owners that move back to the rental market do so because they separate from their partner, experience a loss of income, and/or encounter serious physical and mental health problems (Bentzinger & Cook, 2013; Dieleman, Clark, & Deurloo, 1995; Haurin & Rosenthal, 2005). Furthermore, the conceptual underpinnings of this research, the theory of housing adjustment (Morris & Winter, 1975) posits that families who move from homeownership to renting a home would experience considerable disappointment and distress around a distinctly non-normative event. These families represent the most fragile of housing consumers. Only more recently have investigations

begun to emerge that examine the reciprocal effects of families' health conditions on mortgage delinquency and foreclosure (Lipman et al., 2012; Smith et al., 2003) and the stresses – financial and psychic - associated with returning to the rental housing market .

According to the Morris and Winter's model of housing adjustment (Figure 1) family resources (family mental and physical health conditions and health resources such as the availability of Medicaid or health care/medical insurance coverage) and household organization (partner status) either constrain or facilitate meeting cultural housing norms. The findings of this study seem to suggest that housing tenure trajectories among rural, low-income families do not necessarily follow a conventional life cycle pattern; health conditions and health resources may mediate housing tenure trajectories. In this study, continuous renters were more likely to continuously receive Medicaid assistance over Wave 1, 2 and 3 and to be food insecure at Wave 1. While the availability of Medicaid assistance is critically important to them, it illustrates that those who receive this assistance are unlikely to become homeowners regardless of other sociodemographic characteristics and despite stage in the life cycle where ownership is culturally normative. Results were mixed in supporting the degree to which life cycle stage and housing tenure trajectory are linked for rural, low-income families; partner status (as a proxy for life cycle stage) was insignificant in predicting housing tenure trajectory but income – presumably rising over stage in the life cycle – was associated with housing tenure trajectory.

This study contributed to the limited amount of research that portrays health as having an impact on housing tenure decisions. In a model that included sociodemographic variables food security was significant in predicting housing tenure trajectory for both continuous renters and renters to owners when compared to continuous owners. Food

security can be seen as a health measure because families that are food insecure are less healthy and suffer from other health related issues compared to their counterparts (Bentzinger & Cook, 2012; Berry et al., 2008; Huddleston-Casas, Charnigo, & Simmons, 2008). Not only are low-income families that are continuous renters constrained by income compared to their counterparts, it is likely that food insecurity is the result of too few resources to meet all of a family's needs for food, shelter, and health care needs. Furthermore, when compared to continuous owners, renters to owners were less likely to experience a family illness or injury in over the course of the study. This may suggest that one element that frees up a family's resources to move from renting to owning a home is the absence of unexpected family illnesses or injuries.

Implications for housing professionals, policy makers and practice

It should be noted that some families will never own a home, either because there will be insufficient resources or because they will prefer to not become homeowners. Findings from this study however, can be used by both housing professionals and policymakers to better serve the needs of rural, low-income mothers who do desire to become homeowners by addressing the complex set of concerns regarding family health conditions and health resources that impede homeownership opportunities. While income is widely understood as a prerequisite to homeownership, there has been less attention to the costs – both psychic and financial – that health circumstances impose on families' abilities to enter and sustain homeownership. The findings regarding health can be used by advocates to provide families with a better understanding of the role that their family health conditions play in meeting their goals for homeownership. Furthermore, both community and national health resources need to be targeted to rural, low-income families. Medical insurance is a contentious

political issue that needs resolution and rural, low-income families who are continuous renters are particularly vulnerable, as evidenced by food insecurity and continuous receipt of Medicaid. In many communities, renters especially ‘fly below the radar’ and local health care resources need to expand to prevent and minimize health crises that result from a family’s reluctance to visit physicians regularly and to use emergency and urgent care as primary care alternatives (Gindi, Cohen, & Kirsinger, 2012). Prevention and treatment for family medical needs are fundamental to the success of rural low-income families.

The importance of and need for income generation opportunities among low-income families cannot be minimized. Even among our sample of low-income families, it is clear that achieving and maintaining homeownership was strongly associated with an increased income. Continuous owners had substantially higher average monthly incomes than their continuous renter and renter to owner counterparts at Wave 1 (\$2,066.98, \$1210.39, and \$1318.70 respectively). While it does not appear that low-income mothers need to achieve upper income levels to enter into homeownership, policies and programs aimed at low-income homeownership should aim to identify opportunities for low-income households to earn and save money before embarking on homeownership. Additional training, additional job skills or education have been shown to inspire confidence and provide additional income that allows low-income families to meet homeownership goals (Bentzinger and Cook, 2013). It continues to be critical that low-income families receive help with budgeting and improving their financial capabilities in order to take the necessary steps to save for a down payment and/or other closing costs and to prepare for the maintenance and upkeep required of owned-occupied homes. More non-profit financial and housing counseling services with

outreach to low-income families in rural communities could help to ensure that these families meet their housing tenure goals.

Policies and programs that work with families to develop health safety nets such as the information needed to apply for Medicaid, employment with family health insurance and sick leave benefits and programs to ensure families are food secure also could help families to sustain homeownership once it is attained. Homeownership education seminars and/or counseling can help, where housing counselors work with the client on budgeting, utilizing resources in the community or social support networks, and on improving families' health care resources and knowledge.

Future Research

The aim in this analysis has been to examine the link between health characteristics and housing tenure trajectory. It was interesting to observe that absent sociodemographic factors in the multinomial regression analysis continuous renters when compared to continuous owners were more likely to report anxiety/depression. Future investigations on health and housing trajectories should include closer examination of family health conditions and health resources as mediators between baseline life cycle (sociodemographic characteristics) such as mother's age, number and ages of children, partner status and income, and, housing tenure trajectory. Testing a model such as that depicted in Figure 3.3 could provide important new insights for investigators, policy makers, and community housing advocates. The model might be tested for mothers with and without partners to allow focus on the role or importance of the observed intermittent nature of these relationships. It seems likely that partner's employment (including employment benefits such as health insurance and paid sick leave), and health status, both physical and mental,

would be associated with a family's decisions to own or rent a home and their housing tenure trajectory over time. While this study did not indicate that partner status was influential in predicting housing tenure trajectory for this subsample, previous research has demonstrated that partner status (e.g. gaining or losing a partner through marriage or divorce or a partner's health) can impact moves into and out of homeownership (Clark et al., 1994; Cortes et al., 2007; Dieleman et al., 1995; Haurin & Rosenthal, 2005).

Social support emerged as an important predictor of entering into and sustaining homeownership for rural, low-income families in a previous qualitative examination of the sample (Bentzinger & Cook, 2013 [chapter 2]). In quantitative analyses reported here, social support was measured with self-report mother's perception of her ability to create social support networks. Additional questions about social support networks and community support resources and their impact on health decisions would enhance our understanding of rural, low-income families support needs as a health resource that might contribute to housing tenure trajectory.

This research contributes to the understanding of the complex relationship between health characteristics and resources and housing tenure trajectories for a rural, low-income population. Combined with previous research, it adds to the debate on whether or not housing tenure trajectories follow a predetermined path based on the life cycle stages. It appears to us that continuous receipt of Medicaid (coupled with and reflective of low-income), food insecurity, and mother's anxiety/ depression derail the housing life cycle pattern depicted by previous research in which having a partner and bearing children predict a continuous homeownership trajectory. Many unanswered questions still linger suggesting continued research focused on family health characteristics and resources is warranted.

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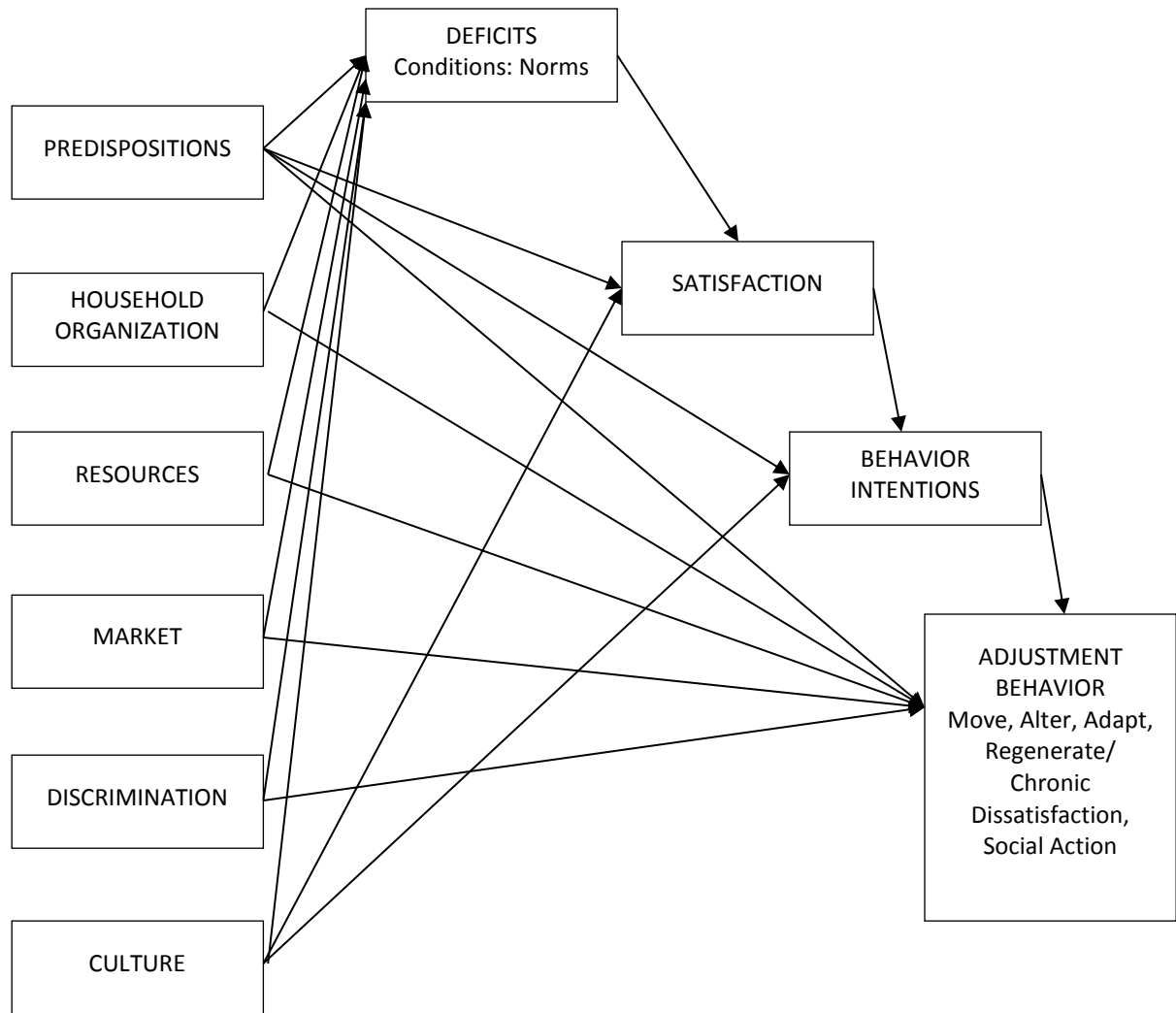
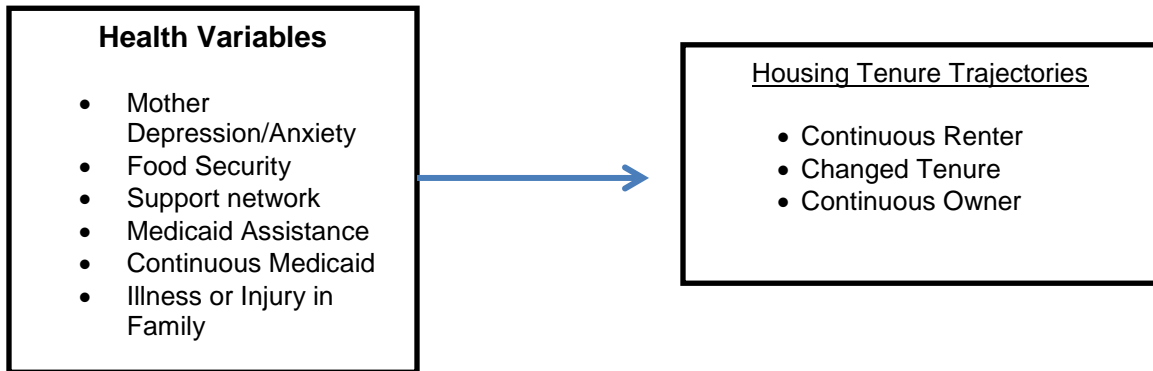


Figure 3.1. Model of housing adjustment theory (based on Morris & Winter, 1996); revised by Cook, Bruin, & Yust.(2011).

Model 1. Health characteristics link with housing tenure trajectories



Model 2. Health and sociodemographic characteristics link with housing tenure trajectory.

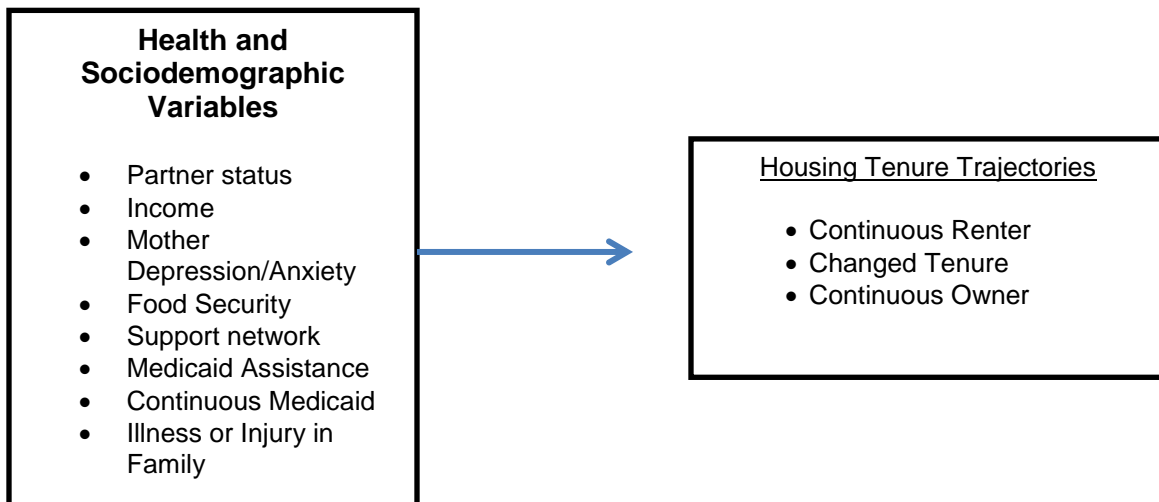


Figure 3.2. Conceptual overview of the analysis plan

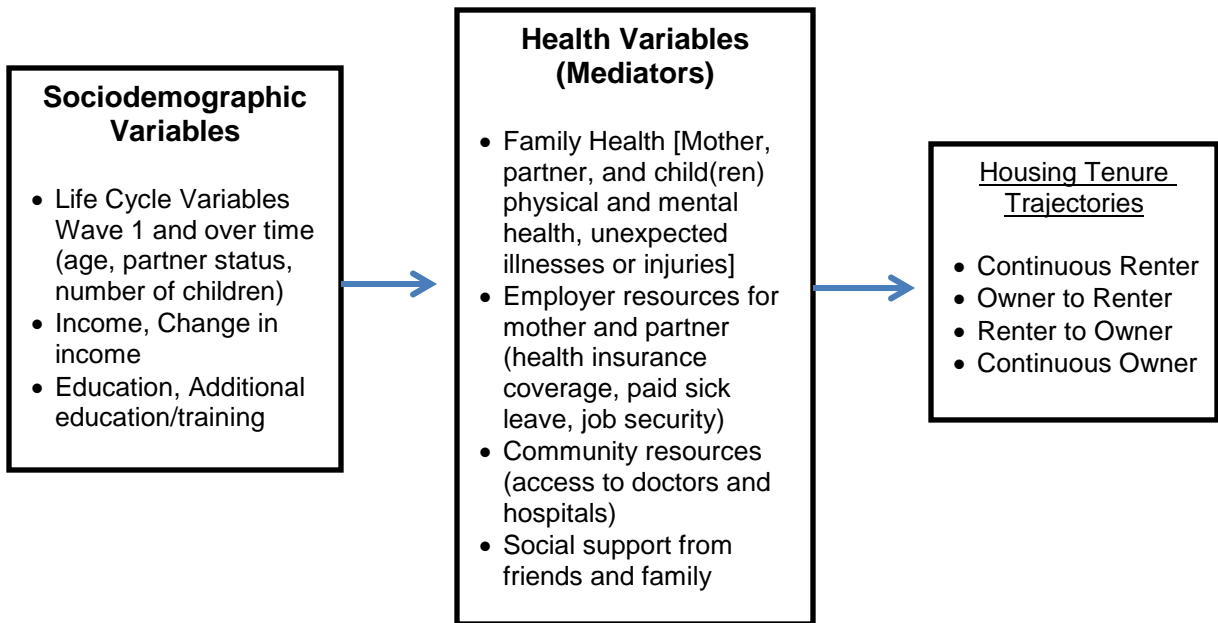


Figure 3.3. Proposed future structural equation model with health variables as a mediator in predicting housing tenure trajectory (under construction).

Table 3.1

Variables, Descriptions and Codes of Wave 1 Variables

Variable	Description	Code
s_age1	Mother's age at 12-31-2001	Continuous
p_have1	Partner status	0=no partner (single, divorced, or separated) 1=partner (married or cohabitating)
S_ethn1	Mother's ethnicity	1=non-Hispanic/White 2=Hispanic/Latino 3=African American 4=Other
s_edu1	Mother's education level	1=less than high school 2=high school diploma or GED 3= beyond high school
s_cw_y1_1	Mother's current employment status	0=not working 1=working
ave_inc1	Average monthly income	Continuous
Fam_InsRatio1	Ratio of family members covered by health insurance in Wave 1 – Sum of all the family members covered by health insurance divided by the total number of family members	Continuous
hss_Chronic	Summation of mother's chronic health problems; the higher the number the more health problems reported: Heart problems, high blood pressure, diabetes, cancer, liver problems, seizures, asthma, back problems, chronic pain, permanent disability, reproduction problems, bladder infections, migraines/headaches, arthritis, thyroid problems, kidney problems, anemia, and digestive problems	Continuous
Fsmyn1	Did the family's food security score count them as food secure or insecure?	1= food secure 2= food insecure
Medicai1	Receiving Medicaid assistance at Wave 1	0=no 1=yes
Hss_dep1	Did the mother report depression or anxiety in the last year?	0=no 1=yes
LSA_support	Does the mother feel she knows how to create a personal support network?	0=no 1=yes

Table 3.2

Variables, Descriptions and Codes of Change Variables

Variable	Description	Code
Change		
HTT	Housing tenure trajectory	0=continuous renter 1=renter to owner 2=continuous owner
Ch_partner	Change in partner status – identifies if there was a change in partner status (e.g. in Wave 1 mother reported having a partner, in Wave 2 she did not have a partner, and in Wave 3 she had a partner again; this mother was reported as 1 for experiencing a change in partner status)	0=no change 1=change
Opp_Educ	Was there an opportunity for education or training in wave 2 or 3?	0=no 1=yes
Ch_scw	Change in work status – similar to change in partner status; if the mother experienced a change in work status from working to not working or vice versa.	0=no 1=yes
Inc_W3minusW1	Change in income – Wave 3 income reported minus Wave 1 income reported to identify an increase or decrease in income between Wave 1 and 3 and by how much.	Continuous
Cont_Medicaid	Continuous Medicaid Coverage – did the mother report receiving continuous Medicaid coverage across all three Waves?	0=no 1=yes
Fam_IllInj	Did anyone in the family experience an illness or injury over the course of data collection	0=no 1=yes

Table 3.3

Health Characteristics of Participants by Housing Tenure Trajectory^a

	1 (<i>n</i> = 111)	2 (<i>n</i> = 32)	3 (<i>n</i> = 62)	Total (<i>n</i> = 205)
Variable	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)
Family insurance coverage	.78(.31)	.77(.36)	.78(.30)	.78(.32)
Mother's chronic health	2.43(2.3)	2.27(2.08)	2.16(2.04)	2.33(2.19)
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Injury/illness for family*				
Yes	84(75.7)	17(53.1)	48(77.4)	149(72.7)
No	27(24.3)	15(46.9)	14(22.6)	56(27.3)
Mother's self-reported anxiety/depression*				
Yes	48(43.2)	7(23.3)	13(21)	68(33.5)
No	63(56.8)	23(76.7)	49(79)	135(66.5)
Receiving Medicaid*				
Yes	83(74.8)	22(68.8)	31(50)	136(66.3)
No	28(25.2)	10(31.3)	31(50)	69(33.7)
Continuously Receiving Medicaid*				
Yes	59(53.2)	10(31.3)	16(25.8)	85(41.5)
No	52(46.8)	22(68.8)	46(74.2)	120(58.5)
Food security*				
Food secure	42(38.9)	16(51.6)	41(70.7)	99(50.3)
Food insecure	66(61.1)	15(48.4)	17(29.3)	98(49.7)
Can create a support network*				
Yes	84(75.7)	19(59.4)	45(72.6)	148(72.2)
No	27(24.3)	10(31.3)	17(27.4)	54(26.3)

^a1= continuous renter, 2= renter to owner, and 3= continuous owner*Significant difference between housing tenure trajectories, $p < .05$.

Table 3.4

Sociodemographic Characteristics of Participants by Housing Tenure Trajectory^a

Variable	1 (n = 111) M (SD)	2 (n = 32) M (SD)	3 (n = 62) M (SD)	Total (n = 205) M (SD)
Mother's age (at 12/31/01)*	30.25(6.78)	31.5(6.75)	35.47(7.42)	32.03(7.32)
Monthly income*	1210.39 (788.87)	1318.70 (869.54)	2066.98 (814.21)	1486.36 (892.75)
Change in income	479.00 (1235.23)	792.16 (1231.04)	705.20 (2039.51)	596.39 (1521.53)
	n (%)	n (%)	n (%)	n (%)
Partner status Wave 1*				
Partner	57(51.4)	14(43.8)	50(80.6)	121(59)
No partner	54(48.6)	18(56.3)	12(19.4)	84(41)
Changed Partner				
Yes	23(20.7)	9(28.1)	7(11.3)	39(19)
No	88(79.3)	23(71.9)	55(88.7)	166(81)
Mother's ethnicity				
White	70(63.1)	20(62.5)	38(61.3)	128(62.4)
Hispanic/Latino	22(19.8)	11(34.4)	20(32.3)	53(25.9)
African American	8(7.2)	1(3.1)	1(1.6)	10(4.9)
Mother's education				
Less than high school	33(29.7)	11(34.4)	14(22.6)	58(28.3)
High school or GED	35(31.5)	8(25)	13(21)	56(27.3)
Beyond high school	43(38.7)	13(40.6)	35(56.5)	91(44.4)
Additional Education/Training				
Yes	55(50)	14(43.8)	32(51.6)	101(49.5)
No	55(50)	18(56.3)	30(48.4)	103(50.5)
Mother's employment status*				
Currently employed	52(46.8)	25(78.1)	37(59.7)	114(55.6)
Not currently employed	59(53.2)	7(21.9)	25(40.3)	91(44.4)
Change in employment status				
Yes	44(39.6)	10(31.3)	18(29)	72(35.1)
No	67(60.4)	22(68.8)	44(71)	133(64.9)

^a1= continuous renter, 2= renter to owner, and 3= continuous owner*Significant difference between housing tenure trajectories, $p < .05$.

Table 3.5

Correlation of Variables

Variable Name	1	2	3	4	5	6	7	8	9
1. S_age1	---								
2. P_have1	.05	---							
3. S_ethn1	.04	.05	---						
4. s_edu1	.13	-.24*	-.01	---					
5. s_cw_y1_1	.12	-.13	.00	.16*	---				
6. ave_inc1	.24*	.53*	.14	-.05	.15*	---			
7. Fam_InsRatio1	.03	-.36*	-.03	.27*	-.07	-.22*	---		
8. hss_Chronic	.14*	-.16*	.12	.14*	-.08	-.17*	.24*	---	
9. Fsmyn1	-.03	.09	.09	.07	.01	-.01	-.13	-.23*	---
10. Medica1	-.18*	-.22*	-.05	-.01	-.18*	-.30*	.23*	.08	-.14
11. hss_dep1	.01	-.18*	.02	.15*	-.08	-.20*	.24*	.32*	-.29*
12. LSA-support	.07	-.04	-.08	.11	-.06	-.06	.13	.05	.03
13. Ch_partner	-.12	-.30*	-.01	.10	.03	-.14	.02	-.02	-.07
14. Opp_educ	-.05	-.16*	.10	.24*	.08	-.10	-.02	.07	.11
15. Ch_scw	-.05	-.07	-.03	-.06	-.12	-.02	-.01	-.04	-.13
16. Inc_W3minusW1	-.11	-.07	.02	.14*	-.06	-.34**	.00	-.10	.14
17. Cont_Medicaid	-.16*	-.12	-.05	-.04	-.19*	-.24*	.12	.18*	-.04
18. Fam_IllInj	.08	.05	.08	.00	.00	.06	.10	.23*	-.10
19. Housing Tenure Trajectory	.30*	.22*	.03	.11	.16*	.39*	-.01	-.06	.27*

*Significant at the $p < .05$ level

Table 3.5 Continued

Variable Name	10	11	12	13	14	15	16	17	18
1. S_age1									
2. P_have1									
3. S_ethn1									
4. s_edu1									
5. s_cw_y1_1									
6. ave_inc1									
7. Fam_InsRatio1									
8. hss_Chronic									
9. Fsmyn1									
10. Medica1	---								
11. hss_dep1	.07	---							
12. LSA-support	-.00	.13	---						
13. Ch_partner	-.02	-.02	.03	---					
14. Opp_educ	-.10	.04	.04	-.01	---				
15. Ch_scw	.11	.07	-.09	-.02	-.02	---			
16. Inc_W3minusW1	.07	-.06	.02	.06	.18*	-.01	---		
17. Cont_Medicaid	.60*	.05	.11	-.08	.04	-.02	-.12	---	
18. Fam_IllInj	.03	.05	.00	-.15*	-.08	-.05	-.08	.05	---
19. Housing tenure trajectory	-.22*	-.22*	-.08	-.08	.00	-.10	.08	-.26*	-.03

Table 3.6.

Multinomial Logistic Regression Analysis Results – with Health Variables and Housing Tenure Trajectories

Variable	Logistical coefficient	Standard error	Odds ratio	<i>p</i>
Continuous Renter				
Intercept	2.46	.47	-	-
Family illness or injury	.24	.41	1.28	.56
Mother's anxiety/depression	-.76	.42	.47	.07
Medicaid	-.35	.46	.70	.44
Continuous Medicaid	-1.03	.47	.36	.03*
Food security	1.16	.38	.31	.00*
Support Network	.09	.41	1.10	.82
Renter to Owner				
Intercept	-.46	.68	-	-
Family illness or injury	1.26	.52	3.54	.01*
Mother's anxiety/depression	-.011	.60	.99	.99
Medicaid	-.77	.62	.46	.21
Continuous Medicaid	-.19	.62	.83	.76
Food security	.81	.52	.45	.12
Support Network	.58	.52	1.78	.27
Cox & Snell R ² = .23				

Note Reference group is mothers who were continuous owners.

*Significant at the $p < .05$ level

Table 3.7

Multinomial Logistic Regression Analysis Results – with Health Variables and Sociodemographic Variables and Housing Tenure Trajectories

Variable	Logistical coefficient	Standard error	Odds ratio	<i>p</i>
Continuous Renter				
Intercept	2.59	.73	-	-
Family illness or injury	.21	.46	1.24	.65
Mother's anxiety/depression	-.26	.46	.77	.57
Medicaid	.27	.54	1.31	.62
Continuous Medicaid	-1.02	.53	.36	.05*
Food security	1.66	.45	.19	.00*
Support Network	.22	.44	1.24	.63
Partner Status	.12	.48	1.13	.80
Monthly Income	-1.32	.31	.27	.01*
Renter to Owner				
Intercept	-.85	1.02	-	-
Family illness or injury	1.28	.56	3.61	.02*
Mother's anxiety/depression	.54	.64	1.72	.40
Medicaid	-.22	.69	.81	.75
Continuous Medicaid	-.12	.66	.87	.84
Food security	1.21	.58	.30	.04*
Support Network	.72	.56	2.06	.20
Partner Status	1.02	.62	2.79	.10
Monthly Income	-1.01	.40	.36	.01*
Cox & Snell R ² = .36				

Note Reference group is mothers who were continuous owners.

*Significant at the $p < .05$ level

CHAPTER 4: OVERALL SUMMARY

General Discussion

This study sought to examine two overarching questions: (a) What factors affect a family's housing tenure trajectory and (b) are health and housing tenure trajectories related? The qualitative and quantitative manuscripts complemented and corroborated each other to help offer a deeper understanding of housing tenure decisions for a rural, low-income population. The first manuscript (Chapter 2) focused on an in-depth qualitative analysis of a subsample of 20 mothers and their responses to short answer questions about the families' everyday lives and issues faced; e.g. health, housing, and financial circumstances. To examine families' experiences about housing four housing tenure trajectory groups were created: continuous renters, owners to renters, renters to owners, and continuous owners. Interpretation of mothers' qualitative data suggests that rural, low-income mothers value homeownership, but a "confluence of vulnerabilities" including issues related to health and health resources impacted mothers' abilities to make decisions about housing tenure. In particular, Chapter 2 illustrated children's health, mother's and partner's health – chronic and episodic events – derailed a family's housing goals to become a homeowner and threatened the homeowner status of even those families who continuously owned over the course of the study.

Influenced by the findings presented in Chapter 2, the second manuscript (Chapter 3) aimed to examine quantitatively the health and sociodemographic predictors of housing tenure trajectories of mothers who are low-income and live in rural areas. Findings from the qualitative study illuminated important health and family experiences that influenced housing tenure trajectories. Two health variables (continuous Medicaid coverage and food security)

were significant in both a model with health variables alone and a model that added sociodemographic variables (income, and partner status); continuous renters were more likely to have continuous Medicaid coverage and to be food insecure. These findings correspond with previous research that there is a complex relationship between housing costs, food and healthcare expenses, and one that requires additional research attention (Long, 2003; Reid, Vittinghoff, & Kushel, 2008). In a second model in which partner status and income were added to health variables, income was significantly associated with continuous homeownership even though the sample consisted of only low-income families. It seems safe to say that more money available to families helps them to meet health and housing needs.

Taken altogether both of these studies offer valuable insight into the lives of rural, low-income mothers and their families housing tenure patterns; particularly the role that health conditions and health resources play in predicting housing adjustment decisions. While many previous studies have examined how housing relates to the life-cycle such as mother's age, marital status, and presence of children (Clark, Deurloo, & Dieleman, 1994; Cortes, Herbert, Wilson, & Clay, 2007; Painter & Lee, 2009; Pickles & Davies, 1991), this investigation sought to better understand how housing choices and opportunities may be shaped by and housing preferences for homeownership derailed by health variables. It appeared from the research conducted herein that there are health related characteristics that are associated with housing tenure trajectories of rural, low-income families. The in-depth interviews led to some initial conclusions about the importance of health safety nets such as medical insurance coverage, sick leave benefits through employers, job security, and a good support network of family and friends and the contribution these made to a family's ability to

enter into and sustain homeownership even among families with physical and mental health challenges. These findings extend previous studies wherein medical expenses prevented families from purchasing a home and in some cases from sustaining homeownership (Smith, Easterlow, Munro, & Turner, 2003; Libman, Fields, & Saegert, 2012). In these previous studies increased medical expenses resulted in decreased income and neither employment benefits nor family support provided an adequate safety net. Congruent with past research, mothers in this study that remained continuous renters and those that experienced a move from homeownership back to the rental market seemed to struggle the most with extensive healthcare issues which may mean that health related issue impeded the family's ability to enter into and sustain homeownership.

The in depth and comparisons of four tenure trajectories depict for policymakers, housing advocates, and social service professionals the challenges low-income, rural families face when making housing decisions. The research that was conducted has general implications for issues surrounding low-income housing tenure trajectories, specifically supporting homeownership for rural, low-income families. The meaning and pursuit of homeownership of families in this study cannot be overstated. Regardless of housing tenure trajectory, families repeatedly confirmed a commitment to achieve and sustain homeownership and move 'up the housing' ladder to cultural normative housing as portrayed by Morris and Winter (1975). It was common for mothers to seek homeownership and a location perceived to provide stability for their children and space for children to play safely. While for many families constraints loomed large and housing deficits were many, interview data responses were clear – the pursuit of the American Dream is compelling for rural, low-income families.

Despite the continuing aftershocks of the 2008-2009 housing market crisis it seems likely that low-income rural families still want to be homeowners. Of course, homeownership can have important benefits for low-income households, especially in accumulating assets and wealth (Boehm and Schlottmann, 2008; Retsinas & Belsky, 2002; Schwartz, 2010; Sherraden, 1991). Though called into question by recent housing market events, increases in property values and building equity in an owned home generally improve the economic position of even low-income families. Financial benefits such as tax deductions on mortgage interest and property tax payments in effect lower the total cost of owned housing, but this topic has been debated by scholars and professionals because they do not always accrue to low-income owners at the same rate as their upper income counterparts (Goetzmann & Spiegel, 2002; Shlay, 2006).

Support for homeownership by the federal government has a long history captured by the words of Franklin Delano Roosevelt, “A nation of homeowners is unconquerable.” From programs to support first time home buyers to amortization of federally-insured home mortgages over 15, 20 and 30 year loans, both public policy and family support for homeownership is embedded in the cultural fabric of the United States. More recently federal programs have promoted increases in homeownership among minority and moderate income families (Boehm and Schlottmann, 2008; Schwartz, 2010). In 2007 and 2008, for example, a homeownership tax credit, aimed to rejuvenate the housing market by providing first time homebuyers with a one-time substantial tax credit (\$7,500 and \$8,000). Additionally, the Obama administration created the Making Home Affordable program to help homeowners get mortgage relief and avoid foreclosure in the wake of the housing crisis; the Making Home Affordable program has recently been extended until 2015.

Many state and local entities also provide programs to assist first time homebuyers or families who are struggling with mortgage delinquency or foreclosure. For example, in Iowa, the Iowa Finance Authority offers down payment assistance to low- and moderate income families purchasing their first home or if they are repeat homebuyers. The Iowa Finance Authority recently created a tax credit program that may reduce eligible home buyers' household federal tax liability, up to \$2,000, every year for the life of their mortgage (Iowa Finance Authority, 2013). Programs and policies such as the ones provided by federal, state and local governments have helped many low- and moderate income families achieve their dreams of entering into homeownership as well as have helped families to maintain their homeownership status.

Continued support of these programs coupled with homeownership education for first time homebuyers would help to ensure a successful transition into homeownership for low- and moderate income families. Quality homeownership pre-purchase education provides the homebuyer with knowledge about the home buying process including budgeting, credit, mortgage financing, down payment assistance, insurance, home maintenance, foreclosure prevention, fair housing and anti-predatory lending. Research conducted by Mayer and Temkin (2013) demonstrated that clients who received pre-purchase counseling and education from a NeighborWorks organization were one-third less likely to become 90+ days delinquent over two years after receiving their loan when compared to borrowers who do not receive pre-purchase counseling from a NeighborWorks organization.

It appears that many families in this study could benefit from public policy initiatives that are targeted to low-income and rural households – either through homeownership counseling, first time home buyer education, and/or tax credits instead of mortgage interest

deductions (Fischer & Huang, 2013). It is noteworthy however, that many families in this study wanted to be homeowners not for the real and perceived financial benefits provided by government policies and programs but for the socioemotional benefits they expected would be forthcoming. Previous research suggests that social gains accrue to homeowners including improvements related to family functioning and child outcomes and decreases in crime, juvenile delinquency and vandalism all have been attributed to homeownership (Retsinas & Belsky, 2002; Rohe, Van Zandt, & McCarthy, 2002; Shlay, 2006).

Seemingly insurmountable constraints impact rural low-income families' abilities to make choices about housing (Morris & Winter, 1975). Health conditions and circumstances were found to be ubiquitous; unquestionably associated with housing tenure trajectories as portrayed in Chapter 2. Although quantitative evidence in chapter 3 was less conclusive, food security, which has been used as a proxy for health in previous research (Bentzinger & Cook, 2012; Berry, Katras, Sano, Lee, & Bauer, 2008), was found to be associated with continuous homeownership. Food insecurity appears to constrain families' choices about housing tenure. Mother's depression/anxiety was only weakly associated with housing tenure trajectory. Other measures of health conditions – mother's physical health, injury/illness in the last year – were not significantly associated with housing. However, the continuous receipt of Medicaid distinguished continuous renters from continuous owners suggesting that the availability of health insurance is an important resource for them; conversely, homeowners may have had better employee benefits to meet medical costs.

Medicaid and universal health care coverage has been, and is likely to continue to be, rigorously debated public policy issue, especially with the implementation of, the Affordable Care Act. The Affordable Care Act provides Americans with better health security by

putting in place comprehensive health insurance reforms. These reforms are intended to expand coverage, hold insurance companies accountable, lower health care costs, guarantee more choices, and enhance the quality of care for all (Medicaid, 2013), particularly for those with pre-existing conditions or individual or family health concerns that might oust them from some medical plans. In the current study we found that health safety nets, such as the use of Medicaid (e.g. MediCal, LACHIP, and Kid's Connection), were important tools for low-income families helping them to pay for medical care that might otherwise be unaffordable. Mothers who were pregnant or had a difficult delivery and were no longer able to work utilized Medicaid benefits to ensure their family could continue to meet monthly housing, food and healthcare needs. Similarly those who were not able to access good benefits from their employers used Medicaid coverage especially for their children.

Over the course of the study, it seemed that some families were able to secure medical benefits for themselves and their children through employers. Mothers who were continuous owners did take advantage of Medicaid at some point, but did not rely continuously on this coverage. The expansion of Medicaid and better quality services through this program could help to ensure there are health safety nets for families in place that may contribute to the ability for families to enter into homeownership. Further research concentrating on health circumstances and resources, not only for the mother, but the whole family, is needed to gain a better understanding of the relationship between health resources and housing tenure.

Furthermore, those who became homeowners over the course of the study, categorized as renter to owner, apparently experienced fewer injuries/illnesses compared to homeowners, perhaps freeing up resources that permitted these families to enter into the

owner housing market. Arguably perhaps both the absence of chronic and episodic injuries and/or illnesses for aspiring homeowners may be an economic boon for them, allowing limited resources to be put toward homeownership. Family member injuries and illnesses are expensive even when health insurance is available.

Morris and Winter's model assumes the path to homeownership and the prerequisite assessment of housing deficits – failure to achieve culturally prescribed housing norms – follows the stages of the life-cycle. In Chapter 3 analyses found income to be associated with housing tenure trajectories. The presence of a partner status was not significant in the quantitative analysis but income captured the presence of a partner in that families in which mothers had partners generally had higher incomes than those who did not. Bivariate correlations and means difference tests suggested that partner status and average income were related to housing tenure trajectory but in a multinomial regression analysis only income, not partner status was significant. Overall the qualitative and quantitative investigations find only nominal support for the notion that housing tenure trajectory follows a predefined path based on stage in the life cycle among rural, low-income families. Constraints, however – in particular, health circumstances and health resources – appear to shape housing opportunities and choices, thwarting housing adjustment options.

Limitations

Quantitative findings from Chapter 3 did not fully support the qualitative health inferences identified in Chapter 2. A potential explanation for that and a limitation of this study is that it was difficult to quantify some of the qualitative findings, in a reliable and valid way, using secondary data (NC1011 data set). For example, social support was found to be of significance in entering into and sustaining homeownership in qualitative analyses.

In the quantitative data social support was difficult to assess; the variable chose was based on a dichotomous question that simply read, “do you feel you are able to create a good social support network?” There are many and/or additional better measures of social support that demonstrate formal and informal support from family and friends (Swanson, Olson, Miller, & Lawrence, 2008) that may have helped to understand the contribute to decisions that are made about housing tenure, especially by providing help when unexpected health care needs or expenses arose. In qualitative analysis family support through childcare, payment of monthly housing expenses, and for informal support/advice seemed to help mothers in entering into and sustaining homeownership in times of health crises.

Even with the addition of variables in the NC1011 data set, the small size of the sample when categorized by housing tenure trajectory presented challenges in the quantitative analyses; N=205; with only 32 mothers in the rent to own and did not include any accounts of mothers that moved from owners to renters (n=4). The quantitative results might have been more informative with the addition of variables such as children’s and partner’s health conditions and employment health benefits. In analyzing qualitative data it appeared that children and partner’s health status as well as their employment benefits affected families’ decisions about housing tenure. Chapter 2 also led to conclusions about separations from partners as an indicator of a transition from owner to renter. This reflects previous findings from Dieleman, Clark, and Deurloo, (1995) and Haurin and Rosenthal (2005), which unfortunately could not be examined in the quantitative investigation (Chapter 3).

Future Directions

Few previous studies have investigated housing tenure trajectories over three waves of data or among rural, low-income families. Particularly, attributes of low-income families who change from own to rent and rent to own compared to those who are continuous owners have not been examined. The model presented, though focused on changes in family health, also permits examination of relationships between and among personal and family background variables that may affect housing tenure trajectories. Thus, the present study contributes to existing literature by providing an analysis of longitudinal data to identify the factors affecting housing tenure decisions among low-income families in the context of health conditions and resources. Given the limitations of the study however, additional research is needed that continues to examine holistically the nature of the relationship between health and housing tenure trajectories. Future research should continue to examine the reciprocal nature of housing and health and how health variables and resources interact with sociodemographic variables to produce housing tenure outcomes (Smith et al., 2003; Libman et al., 2012). Recent contributions to research on health and housing have confirmed the fragility of low-income homeowners and recommended more systematic and focused examination of the structural and relational barriers within and outside the family that shape the housing opportunities of low-income families. This new work has forcefully portrayed the impact of health conditions and health resources to successfully meeting family housing needs. This literature, like the investigation reported in chapter 2, underscore the intricacies of the lived experiences of low-income families. To date, quantitative analyses fall short of representing this complexity. Better understanding and exploration of these relationships can

lead to research based practices that inform policy makers and housing professionals and best meet the health and housing needs of rural, low-income families.

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